```
=> fil zcaplus

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FILE COVERS 1907 - 30 Aug 2004  VOL 141 ISS 10
FILE LAST UPDATED: 29 Aug 2004  (20040829/ED)

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=> fil hcaplus

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FILE LAST UPDATED: 29 Aug 2004  (20040829/ED)

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=> fil wpix

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FILE LAST UPDATED:          26 AUG 2004      <20040826/UP>
MOST RECENT DERWENT UPDATE:     200455        <200455/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
```

PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://thomsonderwent.com/coverage/latestupdates/ <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
GUIDES, PLEASE VISIT:
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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
FIRST VIEW - FILE WPIFV.
FOR FURTHER DETAILS: http://www.thomsonderwent.com/dwpifv <<<

>>> NEW DISPLAY FORMAT HITSTR ADDED ALLOWING DISPLAY OF
HIT STRUCTURES WITHIN THE BIBLIOGRAPHIC DOCUMENT <<<

=> fil medlin

FILE 'MEDLINE' ENTERED AT 15:28:29 ON 30 AUG 2004

FILE LAST UPDATED: 28 AUG 2004 (20040828/UP). FILE COVERS 1951 TO DATE.

On February 29, 2004, the 2004 MeSH terms were loaded. See HELP RLOAD
for details. OLDMEDLINE now back to 1951.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
MeSH 2004 vocabulary. See http://www.nlm.nih.gov/mesh/ and
http://www.nlm.nih.gov/pubs/techbull/nd03/nd03_mesh.html for a
description of changes.

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=> fil embase

FILE 'EMBASE' ENTERED AT 15:28:34 ON 30 AUG 2004

FILE COVERS 1974 TO 26 Aug 2004 (20040826/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

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=> fil biosis

FILE 'BIOSIS' ENTERED AT 15:28:38 ON 30 AUG 2004

FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 August 2004 (20040826/ED)

FILE RELOADED: 19 October 2003.

```
=> fil uspatfull

FILE 'USPATFULL' ENTERED AT 15:28:44 ON 30 AUG 2004
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 26 Aug 2004 (20040826/PD)
FILE LAST UPDATED: 26 Aug 2004 (20040826/ED)
HIGHEST GRANTED PATENT NUMBER: US6782553
HIGHEST APPLICATION PUBLICATION NUMBER: US2004168243
CA INDEXING IS CURRENT THROUGH 26 Aug 2004 (20040826/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 26 Aug 2004 (20040826/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2004
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2004

>>>  USPAT2 is now available.  USPATFULL contains full text of the     <<<
>>>  original, i.e., the earliest published granted patents or         <<<
>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original     <<<
>>>  published document but also a list of any subsequent              <<<
>>>  publications.  The publication number, patent kind code, and      <<<
>>>  publication date for all the US publications for an invention     <<<
>>>  are displayed in the PI (Patent Information) field of USPATFULL   <<<
>>>  records and may be searched in standard search fields, e.g., /PN, <<<
>>>  /PK, etc.                                                         <<<

>>>  USPATFULL and USPAT2 can be accessed and searched together        <<<
>>>  through the new cluster USPATALL.  Type FILE USPATALL to          <<<
>>>  enter this cluster.                                               <<<
>>>                                                                    <<<
>>>  Use USPATALL when searching terms such as patent assignees,       <<<
>>>  classifications, or claims, that may potentially change from      <<<
>>>  the earliest to the latest publication.                           <<<

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=> fil pctfull

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FILE LAST UPDATED:         25 AUG 2004      <20040825/UP>
MOST RECENT UPDATE WEEK:       200434        <200434/EW>
FILE COVERS 1978 TO DATE

>>> As of update 01/2004 the Designated States field (DS)
    has been enhanced to accommodate additional information
    provided by WIPO pertaining to application kind for
    regional and international designated states. Due to the
    change in DS display format postprocessing the data may
    be affected but search and SDI procedures will not have
    to be adjusted.
    See HELP CHANGE for further information <<<

>>> IMAGES ARE AVAILABLE ONLINE AND FOR EMAIL-PRINTS <<<

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:28:56 ON 30 AUG 2004
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d que l83

L1	1	SEA FILE=HCAPLUS ABB=ON PLU=ON US2001-936891/AP,PRN
L2	1	SEA FILE=HCAPLUS ABB=ON PLU=ON WO2000-EP02351/AP,PRN
L3	1	SEA FILE=HCAPLUS ABB=ON PLU=ON (L1 OR L2)
L6		TRANSFER PLU=ON L3 1- RN : 22 TERMS
L7	22	SEA FILE=REGISTRY ABB=ON PLU=ON L6
L8	5	SEA FILE=REGISTRY ABB=ON PLU=ON (7440-02-0 OR 7440-05-3 OR 7440-16-6 OR 7440-18-8 OR 7440-50-8)/RN
L9	1	SEA FILE=REGISTRY ABB=ON PLU=ON 7440-06-4/RN
L10	6	SEA FILE=REGISTRY ABB=ON PLU=ON (L8 OR L9)
L11	16	SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L10
L15	78072	SEA FILE=HCAPLUS ABB=ON PLU=ON "OXIDATION CATALYSTS"+NT/CT
L16	22	SEA FILE=HCAPLUS ABB=ON PLU=ON "OXYGENATION CATALYSTS"+NT/CT
L17	61244	SEA FILE=HCAPLUS ABB=ON PLU=ON "REDUCTION CATALYSTS"+NT/CT
L18	37966	SEA FILE=HCAPLUS ABB=ON PLU=ON "HYDROGENATION CATALYSTS"+NT/CT
L19	4015	SEA FILE=HCAPLUS ABB=ON PLU=ON "AMINATION CATALYSTS"+NT/CT
L25	1	SEA FILE=REGISTRY ABB=ON PLU=ON 7782-44-7/RN
L26	15	SEA FILE=REGISTRY ABB=ON PLU=ON L11 NOT L25
L33	809230	SEA FILE=HCAPLUS ABB=ON PLU=ON L10
L34	95588	SEA FILE=HCAPLUS ABB=ON PLU=ON L33 (L) CAT/RL
L61	86071	SEA FILE=HCAPLUS ABB=ON PLU=ON ?POLYMER? (1W) (?COAT? OR ?STABIL? OR ?PROTECT?)
L62	646	SEA FILE=HCAPLUS ABB=ON PLU=ON L33 (L) L61
L63	95	SEA FILE=HCAPLUS ABB=ON PLU=ON L62 AND L34
L69	2404257	SEA FILE=HCAPLUS ABB=ON PLU=ON (?CARBOHYDRAT? OR ?ALCOHOL? OR ?ALDEHYD? OR ?POLYHYDROXY? OR ?POLYHYDRIC? OR ?HYDROXY? OR ?POLYPHENOL?)
L71	85	SEA FILE=HCAPLUS ABB=ON PLU=ON L63 AND (AY<2001 OR PY<2001 OR PRY<2001)
L72	6	SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND (L15 OR L16)
L73	43	SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND L17
L74	39	SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND L18
L75	0	SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND L19
L76	1	SEA FILE=HCAPLUS ABB=ON PLU=ON L71 AND (?REDUC? (5A) ?AMINATION?)
L77	46	SEA FILE=HCAPLUS ABB=ON PLU=ON (L72 OR L73 OR L74 OR L75 OR L76)
L78	20	SEA FILE=HCAPLUS ABB=ON PLU=ON L69 AND L77
L79	1	SEA FILE=REGISTRY ABB=ON PLU=ON 9003-39-8/RN
L80	14	SEA FILE=REGISTRY ABB=ON PLU=ON L26 NOT L79
L81	252956	SEA FILE=HCAPLUS ABB=ON PLU=ON L80
L82	1	SEA FILE=HCAPLUS ABB=ON PLU=ON L81 AND L77
L83	20	SEA FILE=HCAPLUS ABB=ON PLU=ON L78 OR L82

=> d que l97

L8	5	SEA FILE=REGISTRY ABB=ON PLU=ON (7440-02-0 OR 7440-05-3 OR 7440-16-6 OR 7440-18-8 OR 7440-50-8)/RN
L9	1	SEA FILE=REGISTRY ABB=ON PLU=ON 7440-06-4/RN
L10	6	SEA FILE=REGISTRY ABB=ON PLU=ON (L8 OR L9)
L15	78072	SEA FILE=HCAPLUS ABB=ON PLU=ON "OXIDATION CATALYSTS"+NT/CT

```
L16          22 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "OXYGENATION CATALYSTS"+NT/CT

L17       61244 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "REDUCTION CATALYSTS"+NT/CT
L18       37966 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "HYDROGENATION CATALYSTS"+NT/C
                T
L19        4015 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "AMINATION CATALYSTS"+NT/CT
L33      809230 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10
L34       95588 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 (L) CAT/RL
L61       86071 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ?POLYMER? (1W) (?COAT? OR
                ?STABIL? OR ?PROTECT?)
L62         646 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 (L) L61
L63          95 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L62 AND L34
L71          85 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L63 AND (AY<2001 OR PY<2001
                OR PRY<2001)
L72           6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 AND (L15 OR L16)
L73          43 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 AND L17
L74          39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 AND L18
L75           0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 AND L19
L76           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 AND (?REDUC? (5A)
                ?AMINATION?)
L77          46 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L72 OR L73 OR L74 OR L75 OR
                L76)
L84          39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L71 NOT L77
L85          38 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L84 NOT (SPIN LATTICE)/ST
L86          32 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L85 NOT (CARBON BLACK?/CW)
L87          30 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L86 NOT (CARBON FIBERS/CW)
L88          28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L87 NOT AMINOPLAST/TI,ST
L89          28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L88 NOT (POLYMER ELECTROLYTE)/
                TI
L90          27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L89 NOT VEHICLES/TI
L91          25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L90 NOT SILICONE/TI
L92          24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L91 NOT ("TWO-COMPONENT")/TI
L93          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L92 NOT ULTRAFINE/TI
L94          22 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L93 NOT ("WATER ELECTROLYSIS")
                /TI
L95          21 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L94 NOT GRAFTED/TI
L96          20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L95 NOT NAPHTHOMELANINS/TI
L97          20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L96 NOT STACKS/TI


=> d que l158
L1            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  US2001-936891/AP,PRN
L2            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  WO2000-EP02351/AP,PRN
L3            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L1 OR L2)
L6              TRANSFER  PLU=ON  L3 1- RN :      22 TERMS
L7           22 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6
L8            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (7440-02-0 OR 7440-05-3 OR
                7440-16-6 OR 7440-18-8 OR 7440-50-8)/RN
L9            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7440-06-4/RN
L10           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L8 OR L9)
L11          16 SEA FILE=REGISTRY ABB=ON  PLU=ON  L7 NOT L10
L15       78072 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "OXIDATION CATALYSTS"+NT/CT
L16          22 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "OXYGENATION CATALYSTS"+NT/CT

L17       61244 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "REDUCTION CATALYSTS"+NT/CT
L18       37966 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "HYDROGENATION CATALYSTS"+NT/C
                T
L19        4015 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "AMINATION CATALYSTS"+NT/CT
L25           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7782-44-7/RN
L26          15 SEA FILE=REGISTRY ABB=ON  PLU=ON  L11 NOT L25
```

L33	809230	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L10
L34	95588	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L33 (L) CAT/RL
L61	86071	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	?POLYMER? (1W) (?COAT? OR ?STABIL? OR ?PROTECT?)
L62	646	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L33 (L) L61
L63	95	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L62 AND L34
L69	2404257	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	(?CARBOHYDRAT? OR ?ALCOHOL? OR ?ALDEHYD? OR ?POLYHYDROXY? OR ?POLYHYDRIC? OR ?HYDROXY? OR ?POLYPHENOL?)
L71	85	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L63 AND (AY<2001 OR PY<2001 OR PRY<2001)
L72	6	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 AND (L15 OR L16)
L73	43	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 AND L17
L74	39	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 AND L18
L75	0	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 AND L19
L76	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 AND (?REDUC? (5A) ?AMINATION?)
L77	46	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	(L72 OR L73 OR L74 OR L75 OR L76)
L78	20	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L69 AND L77
L79	1	SEA	FILE=REGISTRY	ABB=ON PLU=ON	9003-39-8/RN
L80	14	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L26 NOT L79
L81	252956	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L80
L82	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L81 AND L77
L83	20	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L78 OR L82
L84	39	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 NOT L77
L85	38	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L84 NOT (SPIN LATTICE)/ST
L86	32	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L85 NOT (CARBON BLACK?/CW)
L87	30	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L86 NOT (CARBON FIBERS/CW)
L88	28	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L87 NOT AMINOPLAST/TI,ST
L89	28	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L88 NOT (POLYMER ELECTROLYTE)/TI
L90	27	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L89 NOT VEHICLES/TI
L91	25	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L90 NOT SILICONE/TI
L92	24	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L91 NOT ("TWO-COMPONENT")/TI
L93	23	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L92 NOT ULTRAFINE/TI
L94	22	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L93 NOT ("WATER ELECTROLYSIS")/TI
L95	21	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L94 NOT GRAFTED/TI
L96	20	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L95 NOT NAPHTHOMELANINS/TI
L97	20	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L96 NOT STACKS/TI
L140	45	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L71 NOT (L83 OR L97)
L141	5	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L140 AND (?OXIDAT? OR ?OXIDIZ?)
L142	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L141 AND (ORGANIC COMPOUNDS)/TI
L143	11	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L140 AND ?REDUC?
L144	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND METHYLCINNAMATE/ST
L145	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND (NOBLE METAL)/TI
L146	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND NANOCLUSTERS/TI
L147	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND RHODIUM/TI
L148	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND REVIEW/ST
L149	5	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	(L144 OR L145 OR L146 OR L147 OR L148)
L150	5	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L143 AND L149
L151	24	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L140 AND HYDROGENAT?
L152	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L151 AND REVIEW/ST
L153	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L151 AND GLASSY/ST
L154	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L151 AND METHYLCINNAMATE/ST
L155	1	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L151 AND (KETO ESTER)/ST

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L156          4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L152 OR L153 OR L154 OR
                L155) AND L151
L157          0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L140 AND AMINAT?
L158          8 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L142 OR L150 OR L156 OR L157


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FILE COVERS 1907 - 30 Aug 2004  VOL 141 ISS 10
FILE LAST UPDATED: 29 Aug 2004  (20040829/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> s l83 or l97 or l158
L159         48 L83 OR L97 OR L158

=> FIL HOME

FILE 'HOME' ENTERED AT 15:30:31 ON 30 AUG 2004

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:30:35 ON 30 AUG 2004
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d que l106
L98         818 SEA FILE=WPIX ABB=ON  PLU=ON  B01J031-06/IPC
L99       48850 SEA FILE=WPIX ABB=ON  PLU=ON  N02/MC
L100        174 SEA FILE=WPIX ABB=ON  PLU=ON  L98 AND L99
L101       6957 SEA FILE=WPIX ABB=ON  PLU=ON  ((?POLYMER? OR ?POLY MER? OR POL
                YMER?) (1W) (?COATED OR ?PROTECT? OR ?STABILIZE? OR PRO TECT?
                OR ?STABL? OR STA BIL?))/BIX
L102          7 SEA FILE=WPIX ABB=ON  PLU=ON  L100 AND L101
L103          6 SEA FILE=WPIX ABB=ON  PLU=ON  L102 NOT 1984-020471/AN
L104        599 SEA FILE=WPIX ABB=ON  PLU=ON  ((?POLYMER? OR ?POLY MER? OR POL
                YMER?) (1W) (?COLLOID? OR COL LOID? OR ?COLL OID?))/BIX
L105          2 SEA FILE=WPIX ABB=ON  PLU=ON  L100 AND L104
```

```
L106          7 SEA FILE=WPIX ABB=ON  PLU=ON  L103 OR L105


=> d que l113
L8            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (7440-02-0 OR 7440-05-3 OR
                7440-16-6 OR 7440-18-8 OR 7440-50-8)/RN
L9            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7440-06-4/RN
L10           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L8 OR L9)
L107     158213 SEA L10
L108       2790 SEA (?POLYMER? OR ?POLY MER? OR POL YMER?) (1W) (?COATED OR
                ?PROTECT? OR ?STABILIZE? OR PRO TECT? OR ?STABL? OR STA BIL?)
L109        228 SEA (?POLYMER? OR ?POLY MER? OR POL YMER?) (1W) (?COLLOID? OR
                COL LOID? OR ?COLL OID?)
L110         37 SEA L107 AND ((L108 OR L109))
L111     172273 SEA ?CATALYS?
L112          8 SEA L110 AND L111
L113          8 DUP REM L112 (0 DUPLICATES REMOVED)


=> d que l119
L1            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  US2001-936891/AP,PRN
L2            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  WO2000-EP02351/AP,PRN
L3            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L1 OR L2)
L6              TRANSFER  PLU=ON  L3 1- RN :       22 TERMS
L7           22 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6
L8            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (7440-02-0 OR 7440-05-3 OR
                7440-16-6 OR 7440-18-8 OR 7440-50-8)/RN
L9            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7440-06-4/RN
L10           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L8 OR L9)
L11          16 SEA FILE=REGISTRY ABB=ON  PLU=ON  L7 NOT L10
L25           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7782-44-7/RN
L26          15 SEA FILE=REGISTRY ABB=ON  PLU=ON  L11 NOT L25
L79           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  9003-39-8/RN
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L116      11388 SEA FILE=USPATFULL ABB=ON  PLU=ON  (((?POLYMER? OR ?POLY MER?
                OR POL YMER?) (1W) (?COATED OR ?PROTECT? OR ?STABILIZE? OR PRO
                TECT? OR ?STABL? OR STA BIL? OR ?COLLOID? OR COL LOID? OR
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L117        557 SEA FILE=USPATFULL ABB=ON  PLU=ON  L116 AND L10
L118         20 SEA FILE=USPATFULL ABB=ON  PLU=ON  L117 AND L80
L119         20 SEA FILE=USPATFULL ABB=ON  PLU=ON  L118 AND (PY<2001 OR
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=> d que l139
L122      70600 SEA FILE=PCTFULL ABB=ON  PLU=ON  (NI OR NICKEL OR PD OR
                PALLADIUM OR RH OR RHODIUM OR RU OR RUTHENIUM OR CU OR COPPER
                OR PT OR PLATINUM) (L) ?CATALY?
L126      83374 SEA FILE=PCTFULL ABB=ON  PLU=ON  (FRUCTOSE OR XYLOSE OR
                LACTOSE OR MALTOSE OR ISOMALTOSE OR TREHALULOSE OR GLUCOSE OR
                SACCHAROSE OR SORBOSE OR DODECYLAMIN? OR ISOMALTULOSE)
L128     266159 SEA FILE=PCTFULL ABB=ON  PLU=ON  (?REDUCTION? OR HYDROGENAT?
                OR ?OXIDA? OR ?REDUCTIV? ?AMIN? OR ?REDUCTIV?(1W)?AMIN?)
L130         47 SEA FILE=PCTFULL ABB=ON  PLU=ON  B01J031-06/IPC
L132         78 SEA FILE=PCTFULL ABB=ON  PLU=ON  (C07B033 OR C07B031)/IPC
L134        125 SEA FILE=PCTFULL ABB=ON  PLU=ON  L130 OR L132
L136         73 SEA FILE=PCTFULL ABB=ON  PLU=ON  L134 AND L122
L137         59 SEA FILE=PCTFULL ABB=ON  PLU=ON  L136 AND L128
L138          7 SEA FILE=PCTFULL ABB=ON  PLU=ON  L137 AND L126
L139          5 SEA FILE=PCTFULL ABB=ON  PLU=ON  L138 AND (AY<2001 OR PY<2001
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OR PRY<2001)

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FILE 'HCAPLUS' ENTERED AT 15:31:39 ON 30 AUG 2004
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PROCESSING COMPLETED FOR L159
PROCESSING COMPLETED FOR L106
PROCESSING COMPLETED FOR L113
PROCESSING COMPLETED FOR L119
PROCESSING COMPLETED FOR L139
L160 85 DUP REM L159 L106 L113 L119 L139 (3 DUPLICATES REMOVED)
ANSWERS '1-48' FROM FILE HCAPLUS
ANSWERS '49-54' FROM FILE WPIX
ANSWERS '55-60' FROM FILE EMBASE
ANSWERS '61-80' FROM FILE USPATFULL
ANSWERS '81-85' FROM FILE PCTFULL

=> d l83 ibib hitstr abs hitind

L83 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:666737 HCAPLUS
DOCUMENT NUMBER: 133:254142
TITLE: Catalytic method for mcdifying **carbohydrates**, **alcohols**, **aldehydes** or **polyhydroxy** compounds
INVENTOI Canan , Emine; Hahnlein, Marc Sascha; Prusse, Ulf; , Klaus-Dieter; Haji Begli, Alireza
PATENT : ker Aktiengesellschaft, Germany
SOURCE: t. Appl., 45 pp.
PIXXD2

Applicants

DOCUMEN
LANGUAG
FAMILY
PATENT

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055165	A1	20000921	WO 2000-EP2351	20000316 <--
W: AU, CA, IL, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19911504	A1	20001019	DE 1999-19911504	19990316 <--
EP 1165580	A1	20020102	EP 2000-925117	20000316 <--
EP 1165580	B1	20030702		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

AU 747812	B2	20020523	AU 2000-43953		20000316 <--
AT 244256	E	20030715	AT 2000-925117		20000316 <--
PT 1165580	T	20031128	PT 2000-925117		20000316 <--
ES 2202115	T3	20040401	ES 2000-925117		20000316 <--
US 2003139594	A1	20030724	US 2003-340913		20030110 <--
US 2004002597	A1	20040101	US 2003-340901		20030110 <--
PRIORITY APPLN. INFO.:			DE 1999-19911504	A	19990316 <--
			WO 2000-EP2351	W	20000316 <--
			US 2001-936891	A3	20011019

IT **7440-02-0**, Nickel, uses **7440-05-3**, Palladium, uses **7440-16-6**, Rhodium, uses **7440-18-8**, Ruthenium, uses **7440-50-8**, Copper, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of **polymer-stabilized** metal nanoparticle catalysts)

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

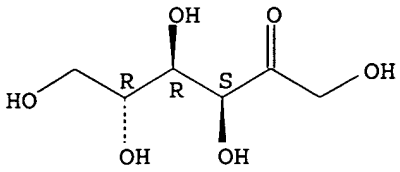
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT **57-48-7**, Fructose, processes **58-86-6**, Xylose, processes **63-42-3**, Lactose **69-79-4**, Maltose **499-40-1**, Isomaltose **51411-23-5**, Trehalulose
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

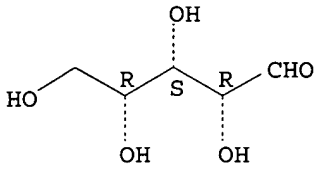
RN 57-48-7 HCAPLUS
CN D-Fructose (9CI) (CA INDEX NAME)

Absolute stereochemistry.



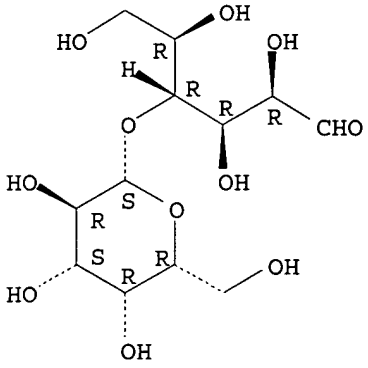
RN 58-86-6 HCAPLUS
CN D-Xylose (9CI) (CA INDEX NAME)

Absolute stereochemistry.



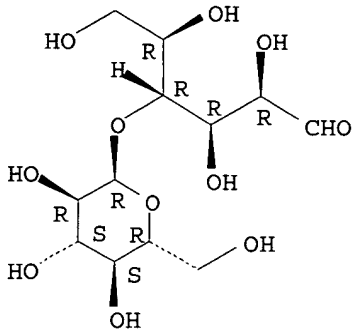
RN 63-42-3 HCAPLUS
CN D-Glucose, 4-O-β-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



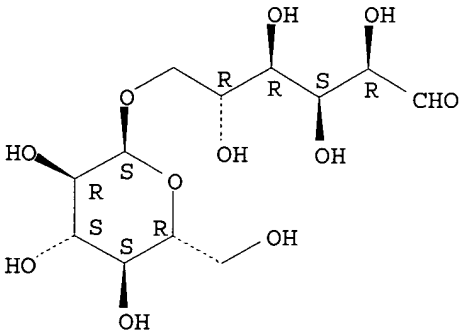
RN 69-79-4 HCAPLUS
CN D-Glucose, 4-O-α-D-glucopyranosyl- (6CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



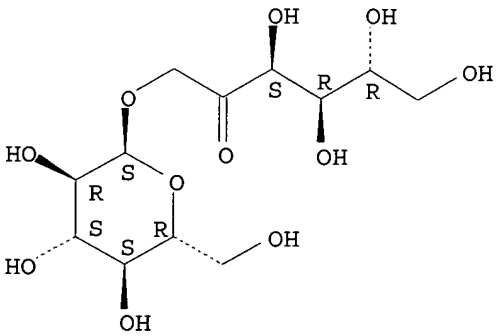
RN 499-40-1 HCAPLUS
CN D-Glucose, 6-O-α-D-glucopyranosyl- (6CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 51411-23-5 HCAPLUS
CN D-Fructose, 1-O-α-D-glucopyranosyl- (6CI, 9CI) (CA INDEX NAME)

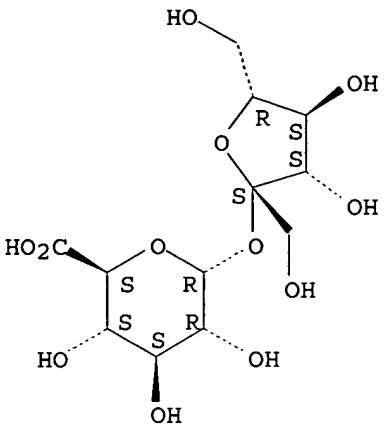
Absolute stereochemistry.



IT **133634-68-1P 133634-69-2P 150787-99-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)
RN 133634-68-1 HCAPLUS
CN α-D-Glucopyranosiduronic acid, β-D-fructofuranosyl (9CI) (CA

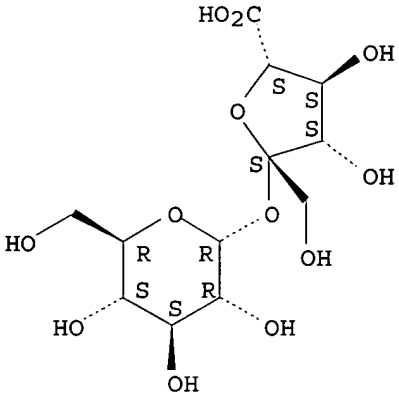
INDEX NAME)

Absolute stereochemistry.



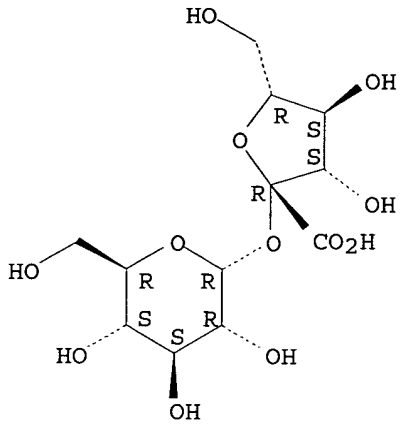
RN 133634-69-2 HCAPLUS
CN D-lyxo-5-Hexulo-5,2-furanosidonic acid, α-D-glucopyranosyl, (5S)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 150787-99-8 HCAPLUS
CN β-D-arabino-2-Hexulofuranosidonic acid, α-D-glucopyranosyl
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

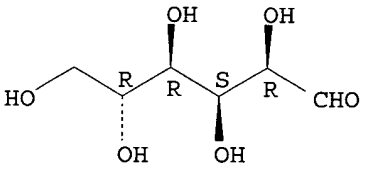


IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(nanoparticles; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of **polymer-stabilized** metal nanoparticle catalysts)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

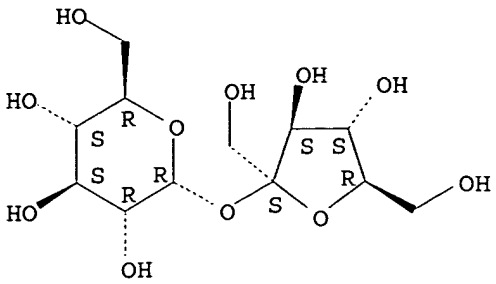
IT **50-99-7**, Glucose, reactions **57-50-1**, Saccharose, reactions **87-79-6**, Sorbose
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)
RN 50-99-7 HCAPLUS
CN D-Glucose (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



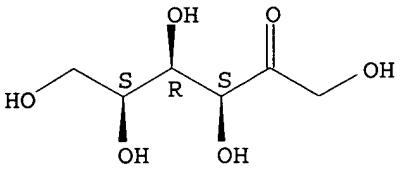
RN 57-50-1 HCAPLUS
CN α-D-Glucopyranoside, β-D-fructofuranosyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 87-79-6 HCAPLUS
CN L-Sorbose (9CI) (CA INDEX NAME)

Absolute stereochemistry.

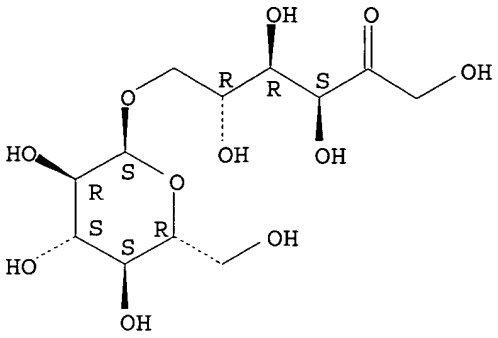


IT **124-22-1**, Dodecylamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(**reductive amination** of isomaltulose; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)
RN 124-22-1 HCAPLUS
CN 1-Dodecanamine (9CI) (CA INDEX NAME)

$H_2N-(CH_2)_{11}-Me$

IT **13718-94-0**, Isomaltulose
RL: RCT (Reactant); RACT (Reactant or reagent)
(**reductive amination** with dodecylamine; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)
RN 13718-94-0 HCAPLUS
CN D-Fructose, 6-O-α-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



AB Industrial conversion of the title compds. in aqueous phase is carried out in the presence of metal catalysts consisting of polymer-stabilized nanoparticles. A catalyst of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For example, activity of an Al2O3-supported, poly(vinylpyrrolidone)-stabilized Pt colloid catalyst (preparation given) in oxidation of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al2O3-supported Pt catalyst decreased to .apprx.35% after 10 runs.

IC ICM C07H015-00

CC 44-4 (Industrial Carbohydrates)
Section cross-reference(s): 67

ST **carbohydrate** oxidn platinum nanoparticle catalyst; polyvinylpyrrolidone stabilized platinum colloid catalyst sorbose oxidn

IT Nanoparticles
Oxidation
Oxidation catalysts
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **Alcohols**, processes
Aldehydes, processes
Carbohydrates, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **Alcohols**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**polyhydric**; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT 9003-39-8, Poly(vinylpyrrolidone)
RL: CAT (Catalyst use); USES (Uses)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of metal nanoparticle catalysts stabilized with)

IT **7440-02-0**, Nickel, uses **7440-05-3**, Palladium, uses **7440-16-6**, Rhodium, uses **7440-18-8**, Ruthenium, uses **7440-50-8**, Copper, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of **polymer-stabilized** metal nanoparticle catalysts)

IT 7782-44-7, Oxygen, uses

RL: NUU (Other use, unclassified); USES (Uses)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **57-48-7**, Fructose, processes **58-86-6**, Xylose, processes **63-42-3**, Lactose **69-79-4**, Maltose **499-40-1**, Isomaltose **51411-23-5**, Trehalulose
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **133634-68-1P 133634-69-2P 150787-99-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(nanoparticles; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of **polymer-stabilized** metal nanoparticle catalysts)

IT **50-99-7**, Glucose, reactions **57-50-1**, Saccharose, reactions **87-79-6**, Sorbose
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **124-22-1**, Dodecylamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(**reductive amination** of isomaltulose; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

IT **13718-94-0**, Isomaltulose
RL: RCT (Reactant); RACT (Reactant or reagent)
(**reductive amination** with dodecylamine; chemical conversion of **carbohydrates**, **alcs.**, **aldehydes** or **polyhydroxy** compds. in presence of polymer-stabilized metal nanoparticle catalysts)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l83 ibib hitstr abs hitind 2-20

L83 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:637821 HCAPLUS
DOCUMENT NUMBER: 133:355775
TITLE: Preparation and Catalytic Properties of Amphiphilic Copolymer-Stabilized Platinum Metals Colloids
AUTHOR(S): Tu, Weixia; Liu, Hanfan; Liew, Kong Yong
CORPORATE SOURCE: Polymer Chemistry Laboratory, Chinese Academy of Sciences and China Petro-Chemical Corporation, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Colloid and Interface Science (**2000**), 229(2), 453-461
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic Press

DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and catalytic properties of amphiphilic **copolymer-stabilized** platinum metals colloids)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

IT **7440-02-0**, Nickel, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of chloronitrobenzene to chloroaniline with introduction of Ni(II) to PVPAA-stabilized Pt catalytic system)
RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

AB Several metal colloids stabilized by an amphiphilic copolymer, poly(1-vinylpyrrolidone-co-acrylic acid) (abbreviated as PVPAA), were prepared by refluxing **alc.**-H2O mixed solns. of the corresponding metal precursors. They had small particle sizes and narrow size distributions. Their catalytic activity was tested by hydrogenation of cyclooctene, 1-dodecene, and ortho-chloronitrobenzene (o-CNB). With the introduction of Ni(II) ions to a PVPAA-stabilized Pt catalytic system, selective hydrogenation of o-CNB to ortho-chloroaniline (o-CAN) with 97.1% selectivity and 100% conversion was obtained. (c) 2000 Academic Press.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 66
IT Colloids
Hydrogenation catalysts
Particle size
Particle size distribution
(preparation and catalytic properties of amphiphilic copolymer-stabilized platinum metals colloids)
IT **7440-06-4**, Platinum, uses 28062-44-4
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and catalytic properties of amphiphilic **copolymer-stabilized** platinum metals colloids)
IT **7440-02-0**, Nickel, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of chloronitrobenzene to chloroaniline with introduction of Ni(II) to PVPAA-stabilized Pt catalytic system)
REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:566746 HCAPLUS
DOCUMENT NUMBER: 134:117443
TITLE: Hydrogenation of olefins in aqueous phase, catalyzed by ligand/protected and polymer-protected rhodium colloids
AUTHOR(S): Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.

CORPORATE SOURCE: Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale Superieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.
SOURCE: Studies in Surface Science and Catalysis (2000), 130C(International Congress on Catalysis, 2000, Pt. C), 2093-2098
CODEN: SSCTDM; ISSN: 0167-2991
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(sulfonated triphenylphosphine ligand and **polymer stabilized** rhodium colloids as hydrogenation catalysts for olefins)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB M-tri-sulfonated triphenylphosphine oxide as its sodium salt (OTPPTS) and highly water soluble polymers such as poly(vinyl **alc.**) (PVA) and poly(vinylpyrrolidone) (PVP) were used to stabilize colloidal suspensions of active rhodium particles. The stabilized colloids were used as catalysts in hydrogenation of oct-1-ene in a two-liquid phase system. The effect of various parameters on the stability and activity of the metal nanoparticles under more or less severe conditions was studied. For OTPPTS-protected rhodium colloid systems, the colloid stability improved by increasing the P/Rh molar ratio. Lowering the pressure also improved stability, but led to lower catalytic activity while temperature had no effect on stability but rather on the formation of the active species. The PVP(K15)-Rh colloids can be re-used more than one time at 50° and 0.3 MPa without loss of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of the catalytic phase provided unchanged turnover frequencies. Suppression of co-solvent did not result in noticeable changes in activity, indicating that the reaction takes place at the interface. The MET micrographs of the catalytic phase of the OTPPTS-Rh system after use in hydrogenation shows 4 nm particles containing rhodium oxide and metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows geminal and terminal Rh-CO species with a preponderance of the geminal ones.

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67
ST rhodium polymer colloid hydrogenation catalyst stability recycling; olefin hydrogenation rhodium polyvinyl **alc** colloid catalyst; polyvinylpyrrolidone colloid sulfonated triphenylphosphine oxide rhodium catalyst

IT **Hydrogenation catalysts**
(sulfonated triphenylphosphine ligand and polymer stabilized rhodium colloids as hydrogenation catalysts for olefins)
IT **7440-16-6**, Rhodium, uses 9002-89-5, Poly(vinyl **alcohol**) 9003-39-8, Poly(vinylpyrrolidone) 109427-00-1
RL: **CAT (Catalyst use)**; USES (Uses)
(sulfonated triphenylphosphine ligand and **polymer stabilized** rhodium colloids as hydrogenation catalysts for olefins)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:492945 HCAPLUS
DOCUMENT NUMBER: 133:95064
TITLE: Preparation and catalysis of polymer-protected coinage metal nanoclusters
AUTHOR(S): Shiraishi, Yukihide; Hirakawa, Kazutaka; Toshima, Naoki
CORPORATE SOURCE: Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda-shi, Yamaguchi, 756-0884, Japan
SOURCE: Kobunshi Ronbunshu (**2000**), 57(6), 346-355
CODEN: KBRBA3; ISSN: 0386-2186
PUBLISHER: Kobunshi Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
IT **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and catalysis of **polymer-protected** coinage metal nanoclusters)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Preparation, characterization and catalysis of polymer-protected coinage metal nanoclusters were investigated, especially from the viewpoint of bimetallization. Poly (N-vinyl-2-pyrrolidone) (PVP)-protected Au/Rh bimetallic nanoclusters with an average diameter of 2.6 nm were prepared by **alc.** reduction of HAuC14 and RhChI in the presence of PVP. The Au/Rh bimetallic nanoclusters having an Au-core/Rh-shell structure work as more active catalysts for visible-light-induced hydrogen generation from water than the corresponding Au and Rh monometallic nanoclusters. Ag nanoclusters protected by poly(sodium acrylate) (PSA) were prepared by UV irradiation of an **alc.**-water solution of silver perchlorate in the presence of PSA and were applied to the catalyst for oxidation of ethylene. The activity of Ag nanoclusters thus prepared remarkably increases with increasing the reaction temperature Addition of cesium and rhenium ions increases the catalytic activity of PSA-Ag nanoclusters as well. Thus, PSA plays an important role in this system. PVP-protected Cu/Pd alloy nanoclusters were prepared by reduction in glycol at 198°C, revealing high activity as a catalyst for hydration of acrylonitrile to acrylamide as well as for partial hydrogenation of 1,3-cyclooctadiene to cyclooctene.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38
IT **Epoxidation catalysts**
Hydration catalysts
Hydrogenation catalysts
Nanoparticles
Photolysis catalysts
(preparation and catalysis of polymer-protected coinage metal nanoclusters)
IT 7440-15-5, Rhenium, uses **7440-16-6**, Rhodium, uses 7440-46-2, Cesium, uses 7440-57-5, Gold, uses 9003-39-8, Poly (N-vinyl-2-pyrrolidone) 25549-84-2, Poly(sodium acrylate) 39286-82-3
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and catalysis of **polymer-protected** coinage metal nanoclusters)

L83 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:413470 HCAPLUS
DOCUMENT NUMBER: 133:237559
TITLE: Asymmetric hydrogenation of α-diketones over polymer-stabilized and supported platinum clusters
AUTHOR(S): Zuo, X.; Liu, H.; Tian, J.
CORPORATE SOURCE: Institute of Chemistry, Center for Molecular Science, PCLCC, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Molecular Catalysis A: Chemical (**2000**), 157(1-2), 217-224
CODEN: JMCCF2; ISSN: 1381-1169
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:237559
IT **7440-06-4D**, Platinum, **polymer-stabilized** and supported, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(asym. hydrogenation of α-diketones over **polymer-stabilized** and supported platinum clusters)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB The asym. hydrogenation of α-diketones was investigated over finely dispersed polymer-stabilized and supported platinum clusters. It was shown that the rate-accelerating effect of cinchonidine in this reaction was much less pronounced than the case of Pt/cinchona/α-keto ester system. The activity and enantiomeric excess (e.e.) for 3-**hydroxy**-2-butanone reached maximum when the molar ratio of the modifier to reactant was about 1:650. There was no close correlation between the catalytic performance of the platinum clusters and the polarity of the solvents, whereas good enantioselectivity (°40%) as well as activity could be obtained in a mixture of dichloromethane and ethanol.
CC 23-7 (Aliphatic Compounds)
IT Hydrogenation
Hydrogenation catalysts
(stereoselective; asym. hydrogenation of α-diketones over polymer-stabilized and supported platinum clusters)
IT 485-71-2, Cinchonidine **7440-06-4D**, Platinum, **polymer-stabilized** and supported, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(asym. hydrogenation of α-diketones over **polymer-stabilized** and supported platinum clusters)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:745198 HCAPLUS
DOCUMENT NUMBER: 132:24789
TITLE: Polymer-protected bimetallic nanocluster catalysts having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation
AUTHOR(S): Toshima, Naoki; Hirakawa, Kazutaka
CORPORATE SOURCE: Department of Materials Science and Engineering,

Science University of Tokyo in Yamaguchi, Onoda, 756-0884, Japan
SOURCE: Polymer Journal (Tokyo) (**1999**), 31(11-2), 1127-1132
CODEN: POLJB8; ISSN: 0032-3896
PUBLISHER: Society of Polymer Science, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(**polymer-protected** bimetallic nanocluster catalysts having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB A visible-light-induced electron transfer system was constructed by using tris(bipyridine)ruthenium(III), Me viologen, EDTA and colloidal metal nanocluster as photosensitizer, electron relay, sacrificial electron donor and reductive catalyst, resp. Polymer-protected Au, Pt, Pd, Rh and Ru monometallic, and Au/Pt, Au/Pd, Au/Rh and Pt/Ru bimetallic nanocluster catalysts were prepared as colloidal dispersions by **alc.**-reduction, and applied to the catalysts for the above reaction. The rate of electron transfer from Me viologen cation radical to the metal nanocluster catalyst is proportional to the hydrogen generation rate at a steady state. All the electrons accepted by metal nanocluster catalysts are used for the hydrogen generation. Both electron transfer and hydrogen generation rates increase when the colloidal dispersions of bimetallic nanoclusters are used in place of the corresponding monometallic nanoclusters. An Au-core/Rh-shell structure has been suggested by UV-Vis spectrum measurement for Au/Rh bimetallic nanoclusters.

CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 67, 74

IT Nanoparticles

Photoinduced electron transfer
Photolysis catalysts
Reduction catalysts
(polymer-protected bimetallic nanocluster catalysts having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation)

IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses **7440-18-8**, Ruthenium, uses 7440-57-5, Gold, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(**polymer-protected** bimetallic nanocluster catalysts having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:725461 HCAPLUS
DOCUMENT NUMBER: 130:196398
TITLE: Selective hydrogenation of α,β-unsaturated **aldehyde** to α,β-unsaturated **alcohol** over polymer-stabilized platinum colloid and the promotion effect of metal cations
AUTHOR(S): Yu, Weiyong; Liu, Hanfan; Liu, Manhong; Tao, Qing
CORPORATE SOURCE: Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Molecular Catalysis A: Chemical (**1999**), 138(2-3), 273-286
CODEN: JMCCF2; ISSN: 1381-1169
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-06-4D**, Platinum, **polymer-stabilized** platinum colloid, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over **polymer-stabilized** platinum colloid and the promotion effect of metal cations)

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB The modification of some metal cations to polymer-stabilized platinum colloid leads to remarkable increases in both the activity and the selectivity in liquid-phase selective hydrogenation of **cinnamaldehyde** to cinnamyl **alc.** and of **crotonaldehyde** to crotyl **alc.** The promotion effect was due to the interaction of metal cations and the C:O groups in reactants. The adsorbed metal cations activated the C:O double bonds to accelerate the reaction rate and to increase the selectivity to α,β-unsatd. **alcs.** The steric hindrance also played an important role in the reaction.

CC 22-7 (Physical Organic Chemistry)
Section cross-reference(s): 67

ST unsatd **aldehyde** selective hydrogenation polymer stabilized platinum colloid; metal ion promotor polymer stabilized platinum colloid

catalyst
IT Particle size
Steric hindrance
(selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over polymer-stabilized platinum colloid and the promotion effect of metal cations)
IT Hydrogenation
Hydrogenation catalysts
(selective; selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over polymer-stabilized platinum colloid and the promotion effect of metal cations)
IT **7440-06-4D**, Platinum, **polymer-stabilized** platinum colloid, uses 9003-39-8, PVP 15438-31-0, Iron ion(2+), uses 20074-52-6, Iron ion(3+), uses 22541-53-3, Cobalt ion(2+), uses
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over **polymer-stabilized** platinum colloid and the promotion effect of metal cations)
IT 104-55-2, **Cinnamaldehyde** 4170-30-3, **Crotonaldehyde**
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over polymer-stabilized platinum colloid and the promotion effect of metal cations)
IT 104-54-1P, Cinnamyl **alcohol** 6117-91-5P, Crotyl **alcohol**
RL: SPN (Synthetic preparation); PREP (Preparation)
(selective hydrogenation of α,β-unsatd. **aldehyde** to α,β-unsatd. **alc.** over polymer-stabilized platinum colloid and the promotion effect of metal cations)
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:721850 HCAPLUS
DOCUMENT NUMBER: 129:307026
TITLE: Colloidal platinum-polyacid nanocatalyst systems
AUTHOR(S): Mayer, Andrea B. R.; Mark, James E.; Hausner, Sven H.
CORPORATE SOURCE: Department Chemistry, University Cincinnati, Cincinnati, OH, 45221, USA
SOURCE: Angewandte Makromolekulare Chemie (**1998**), 259, 45-53
CODEN: ANMCBO; ISSN: 0003-3146
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4P**, Platinum, uses
RL: **CAT (Catalyst use)**; PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(effect of water-soluble **polymers** on **stabilization**, morphol., and catalytic activity of colloidal platinum)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Various water-soluble polymers, with special emphasis on polyacids, were

employed for the stabilization of colloidal Pt nanoparticles which were prepared by the in-situ reduction of H2PtCl6. The particle sizes, size distributions, and morphologies of the Pt nanoparticles were determined by transmission electron microscopy. In addition, the catalytic activities of the Pt-polymer systems were qual. evaluated by the hydrogenation of cyclohexene as a model reaction. The type of polymer (e.g., the use of a polyacid vs. a nonionic, water-soluble polymer) cannot only influence the nanoparticle sizes and morphologies and the colloid stabilities, but the catalytic activities as well. In most cases, increased catalytic activities were observed for the Pt catalysts if various polyacids were used as protective matrixes. Several influences, such as the particle size and morphol., and the interactions between the polymer and the catalyst nanoparticles have to be considered. Therefore, the selection of the protective polymer is highly important for tailoring the catalytic properties of such metal-polymer catalyst systems. Addnl. influences may stem from the presence of ions (e.g., from the metal precursor or the counterions of the polymer) or special functions introduced by certain components of the polymer (e.g., units capable of hydrogen transfer).

CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 36

IT **Hydrogenation catalysts**
(effect of water-soluble polymers on catalytic activity of colloidal platinum)

IT **7440-06-4P**, Platinum, uses
RL: **CAT (Catalyst use)**; PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(effect of water-soluble **polymers** on **stabilization**, morphol., and catalytic activity of colloidal platinum)

IT 9003-39-8, Poly(vinylpyrrolidone) 25086-89-9, VinylPyrrolidinone-vinylacetate copolymer 25087-26-7, Polymethacrylic acid 25119-64-6, Poly(itaconic acid) 25119-83-9, Acrylic acid-butyl acrylate copolymer 25703-79-1, Poly(2-**hydroxypropyl** methacrylate) 27119-07-9, Poly(2-acrylamido-2-methyl-1-propanesulfonic acid) 27754-99-0, Poly(vinyl phosphonic acid) 28062-44-4, 2-Pyrrolidinone, 1-Ethenyl-, polymer with 2-Propenoic acid 28265-35-2, Butadiene-maleic acid copolymer 50851-57-5, Polystyrene sulfonic acid
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(effect of water-soluble polymers on stabilization, morphol., and catalytic activity of colloidal platinum)

L83 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:375151 HCAPLUS
DOCUMENT NUMBER: 129:135753
TITLE: Catalytic hydrogenation by polymer stabilized rhodium
AUTHOR(S): Busser, G. W.; Van Ommen, J. G.; Lercher, J. A.
CORPORATE SOURCE: Department of Chemical Technology, University of Twente, Enschede, 7500 AE, Neth.
SOURCE: Studies in Surface Science and Catalysis (**1997**), 108(Heterogeneous Catalysis and Fine Chemicals IV), 321-328
CODEN: SSCTDM; ISSN: 0167-2991
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-16-6**, Rhodium, properties
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(catalytic hydrogenation by **polymer stabilized** rhodium)

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB The preparation, physicochem. characterization and catalytic testing of polymer stabilized rhodium particles are described. Particles between 1 and 3.5 nm stabilized by polyvinyl-2-pyrrolidone and poly-2-ethyloxazoline were characterized by Transmission Electron Microscopy (TEM), X-ray absorption spectroscopy (XAFS) and liquid phase hydrogen/oxygen titration Liquid phase hydrogenation of 4-tert-butylphenol was used as a test reaction. It was found that in contrast to a conventional carbon supported material, a polymer supported Rh did not lead to hydrogenolysis and isomerization. Larger catalyst particles and a higher concentration of polymer caused a higher selectivity to 4-tert-butylcyclohexanone. This has been attributed to the presence of well-reduced Rh. In contrast, the availability of electron deficient Rh is speculated to enhance the rate of hydrogenation to 4-tert-butylcyclohexanol. The preferential formation of the cis-isomer of this **alc.** was observed over all the catalysts.
CC 22-3 (Physical Organic Chemistry)
Section cross-reference(s): 36, 67
IT Clusters
Hydrogenation
Hydrogenation catalysts
Hydrogenolysis
Isomerization
Particles
Polymer-supported reagents
Regiochemistry
Stereochemistry
Transmission electron microscopy
XAFS spectroscopy
(catalytic hydrogenation by polymer stabilized rhodium)
IT **7440-16-6**, Rhodium, properties 25805-17-8, Poly-2-ethyloxazoline
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(catalytic hydrogenation by **polymer stabilized** rhodium)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:714412 HCAPLUS
DOCUMENT NUMBER: 126:37726
TITLE: Polymer-protected palladium nanoparticles and their use in catalysis
AUTHOR(S): Mayer, Andrea B. R.; Mark, James E.
CORPORATE SOURCE: Polymer Research Center, University Cincinnati, Cincinnati, OH, 45221-0172, USA
SOURCE: Macromolecular Reports (**1996**), A33(Suppl. 7&8), 451-459
CODEN: MREPEG; ISSN: 1060-278X
PUBLISHER: Dekker
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(**polymer-protected** palladium nanoparticles and

their use in catalysis)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

AB Stable palladium colloids were prepared by the in-situ reduction of palladium chloride (PdCl2) in the presence of protective water-soluble polymers and cationic polyelectrolytes. The particle sizes, morphologies, and particle-size distributions were determined by transmission electron microscopy and found to be in the nanometer size range. The catalytic activity of these colloidal metal-polymer systems was tested by the hydrogenation of cyclohexene as a model reaction. Most of the polymer-protected palladium nanoparticles were found to be catalytically active, and final conversions up to 100% were obtained in many cases.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38, 66
IT **Hydrogenation catalysts**
(for cyclohexene; polymer-protected palladium nanoparticles and their use in catalysis)
IT **7440-05-3**, Palladium, uses 9003-39-8 9011-16-9 25086-89-9 25609-94-3 25703-79-1, Poly(2-**hydroxypropyl** methacrylate) 25805-17-8, Poly(2-ethyl-2-oxazoline) 26062-79-3 28062-44-4 50851-57-5, Poly(styrene sulfonic acid) 58564-97-9 68039-13-4
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(**polymer-protected** palladium nanoparticles and their use in catalysis)

L83 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:645827 HCAPLUS
DOCUMENT NUMBER: 126:37738
TITLE: Polymer-protected, colloidal platinum nanocatalysts
AUTHOR(S): Mayer, A. B. R.; Mark, J. E.
CORPORATE SOURCE: Polymer Research Center, University Cincinnati, Cincinnati, OH, 45221, USA
SOURCE: Polymer Bulletin (Berlin) (**1996**), 37(5), 683-690
CODEN: POBUDR; ISSN: 0170-0839
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-protected** colloidal Pt nanocatalysts)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Several stable colloidal Pt nanocatalysts were prepared by in-situ reduction of H2PtCl6, and were protected by various water-soluble homopolymers and random copolymers as well as cationic polyelectrolytes. The particle sizes, morphologies, and size distributions were determined by TEM, and the catalytic activity of the Pt nanoparticles was tested by the hydrogenation of cyclohexene. The type of protective polymer and its properties strongly

influence the catalytic activity by creating a certain environment surrounding the catalytically-active nanometal. Thus, careful selection of the protective polymer plays an important role in the development of tailored metal-polymer catalyst systems.

CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38

IT **Hydrogenation catalysts**
(preparation and characterization of polymer-protected colloidal Pt nanocatalysts)

IT 9003-39-8 9011-16-9, Methylvinylether-maleic anhydride copolymer 25086-89-9 25087-26-7, Poly(methacrylic acid) 25703-79-1, Poly(2-**hydroxypropylmethacrylate**) 25805-17-8, Poly(2-ethyl-2-oxazoline) 26062-79-3, Poly(diallyldimethyl ammonium chloride) 27119-07-9, Poly(2-acrylamido-2-methyl-1-propane sulfonic acid) 27754-99-0, Poly(vinyl phosphonic acid) 28062-44-4 50851-57-5, Poly(styrene sulfonic acid) 68039-13-4, Poly(methacrylamido-propyltrimethyl ammonium chloride) 184713-15-3
RL: CAT (Catalyst use); USES (Uses)
(preparation and characterization of polymer-protected colloidal Pt nanocatalysts)

IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-protected** colloidal Pt nanocatalysts)

L83 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:606505 HCAPLUS
DOCUMENT NUMBER: 125:300524
TITLE: Preparation and characterization of polymer-protected Pt/Co bimetallic colloids and their catalytic properties in the selective hydrogenation of **cinnamaldehyde**
AUTHOR(S): Yu, Weiyong; Wang, Yuan; Liu, Hanfan; Zheng, Wen
CORPORATE SOURCE: Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100 080, Peop. Rep. China
SOURCE: Journal of Molecular Catalysis A: Chemical (**1996**), 112(1), 105-113
CODEN: JMCCF2; ISSN: 1381-1169
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-06-4D**, Platinum, **polymer-protected**
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-protected** Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Polymer-protected Pt/Co bimetallic colloids with Pt/Co molar ratios of 3:1 and 1:1 have been prepared by the polyol process and characterized by TEM and XRD. Over the above Pt/Co bimetallic colloid catalyst (Pt/Co = 3:1), **cinnamaldehyde** can be selectively hydrogenated to cinnamyl **alc.** with 99.8% selectivity at 96.2% conversion. The activity and selectivity can be affected by H2O and NaOH added to the reaction system; the former leads to a highly polar solution and the latter retards the

olefinic hydrogenation. The Pt/Co bimetallic colloid is stable enough to withstand the hydrogenation reaction at 333 K and 4.0 MPa.
CC 25-7 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
ST **cinnamaldehyde** hydrogenation catalyst platinum cobalt
IT **Hydrogenation catalysts**
Polymer-supported reagents
(preparation and characterization of polymer-protected Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)
IT 1310-73-2, Sodium hydroxide, uses 7732-18-5, Water, uses 9003-39-8, Poly(N-vinyl-2-pyrrolidone)
RL: CAT (Catalyst use); USES (Uses)
(preparation and characterization of polymer-protected Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)
IT **7440-06-4D**, Platinum, **polymer-protected**
7440-48-4D, Cobalt, polymer-protected
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-protected** Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)
IT 104-55-2, **Cinnamaldehyde**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and characterization of polymer-protected Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)
IT 104-54-1P, Cinnamyl **alcohol**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of polymer-protected Pt/Co bimetallic colloids and their catalytic properties in selective hydrogenation of **cinnamaldehyde**)

L83 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:599766 HCAPLUS
DOCUMENT NUMBER: 125:328130
TITLE: Immobilization of polymer-protected metal colloid catalysts by the formation of polymer hydrogen bond complexes
AUTHOR(S): Wang, Yuan; Liu, Hanfan; Huang, Yanxia
CORPORATE SOURCE: Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Polymers for Advanced Technologies (**1996**), 7(8), 634-638
CODEN: PADTE5; ISSN: 1042-7147
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3P**, Palladium, preparation **7440-06-4P**, Platinum, preparation **7440-16-6P**, Rhodium, preparation
RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(catalyst; immobilization of **polymer-protected** metal colloid hydrogenation catalysts by hydrogen bonding to polymers)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Nanoscopic noble metal (Pt, Pd, Rh) colloidal catalysts, protected by poly(N-vinyl-2-pyrrolidone) (PVP) or polyvinyl **alc.** (PVA), were immobilized to give heterogeneous catalysts by forming polymer hydrogen bond complexes with polyacrylic acid (PAA). A PVP-PAA-Pd catalyst was found to be very active and selective for the partial hydrogenation of cyclopentadiene to cyclopentene.
CC 24-4 (Alicyclic Compounds)
Section cross-reference(s): 35, 37, 67
IT Colloids
Hydrogen bond
Hydrogenation
Hydrogenation catalysts
(immobilization of polymer-protected metal colloid hydrogenation catalysts by hydrogen bonding to polymers)
IT **7440-05-3P**, Palladium, preparation **7440-06-4P**, Platinum, preparation **7440-16-6P**, Rhodium, preparation
RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(catalyst; immobilization of **polymer-protected** metal colloid hydrogenation catalysts by hydrogen bonding to polymers)

L83 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:486686 HCAPLUS
DOCUMENT NUMBER: 125:221328
TITLE: Modification of metal cations to metal clusters in liquid medium
AUTHOR(S): Yu, Wei-Yong; Liu, Han-Fan; Tao, Qing
CORPORATE SOURCE: Institute Chemistry, Chinese Academy Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Chemical Communications (Cambridge) (**1996**), (15), 1773-1774
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4D**, Platinum, **polymer-protected** colloidal clusters
RL: **CAT (Catalyst use)**; USES (Uses)
(hydrogenation of **cinnamaldehyde** with **polymer-protected** colloidal platinum cluster catalyst and metal cations)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB The modification of some metal cations to polymer-protected colloidal platinum clusters leads to remarkable increases in both selectivity and activity in homogeneous liquid-phase selective hydrogenation of **cinnamaldehyde** to cinnamyl **alc.**

CC 25-27 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 67

ST **cinnamaldehyde** hydrogenation catalyst platinum polymer protected

IT Cations
Hydrogenation catalysts
(hydrogenation of **cinnamaldehyde** with polymer-protected colloidal platinum cluster catalyst and metal cations)

IT **7440-06-4D**, Platinum, **polymer-protected** colloidal clusters 7646-79-9, Cobalt dichloride, uses 7646-85-7, Zinc chloride, uses 7647-14-5, Sodium chloride, uses 7705-08-0, Ferric chloride, uses 7718-54-9, Nickel(II) chloride, uses 9003-39-8, Poly(N-vinyl-2-pyrrolidone)
RL: **CAT (Catalyst use)**; USES (Uses)
(hydrogenation of **cinnamaldehyde** with **polymer-protected** colloidal platinum cluster catalyst and metal cations)

IT 104-55-2, **Cinnamaldehyde**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of **cinnamaldehyde** with polymer-protected colloidal platinum cluster catalyst and metal cations)

IT 104-53-0P, 3-**Phenylpropionaldehyde** 104-54-1P, Cinnamyl **alcohol** 122-97-4P, 3-Phenylpropanol
RL: SPN (Synthetic preparation); PREP (Preparation)
(hydrogenation of **cinnamaldehyde** with polymer-protected colloidal platinum cluster catalyst and metal cations)

L83 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:398835 HCAPLUS
DOCUMENT NUMBER: 125:68745
TITLE: Preparation and characterization of polymer-protected cobalt metal colloid in organic solvent
AUTHOR(S): Wang, Qian; Liu, Hanfan
CORPORATE SOURCE: Inst. Chem., Chinese Acad. Sci., Beijing, 100080, Peop. Rep. China
SOURCE: Cuihua Xuebao (**1996**), 17(3), 241-244
CODEN: THHPD3; ISSN: 0253-9837
PUBLISHER: Kexue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation and characterization of **polymer-protected** cobalt colloid catalyst in organic solvent)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

AB Poly(vinylpyrrolidone-co-styrene)-protected cobalt metal colloid was prepared by anthracene magnesium reduction in THF at room temperature under the

protection of nitrogen. The copolymer was synthesized by radical copolymn. of vinylpyrrolidone (NVP) with styrene (ST). From the elemental anal., the mole ratio of NVP to ST was about 0.2, and the IR spectrum showed that the copolymer was composed of functional groups of the two monomers. TEM result indicated that the average particle size of the cobalt colloid was 1.48 nm with a standard deviation of 0.51 nm, and the electron diffraction pattern of the particles declared that they were amorphous phase. The XRD investigation showed that there was no obvious diffraction line of metallic cobalt or cobalt oxide, which was consistent with the result of electron diffraction. In order to verify the metal cobalt generation, the cobalt powder was prepared under the same condition as the colloid without protective copolymer. The cobalt particles immobilized on active carbon served as catalyst for the selective hydrogenation of cinnamic **aldehyde** (CAL). Its TOF (defined as nCAL/(nCo·t)) was 9.2 mol/(mol·h) and the selectivity for cinnamic **alc.** was over 90% at 20% conversion. The palladium colloid could be prepared by the same method.

CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 35, 66

ST polymer protected cobalt colloid catalyst; styrene vinylpyrrolidone copolymer protected cobalt colloid; hydrogenation cinnamic **aldehyde** polymer protected cobalt

IT **Hydrogenation catalysts**
(for cinnamic **aldehyde**; preparation and characterization of polymer-protected cobalt colloid catalyst in organic solvent)

IT 104-55-2, Cinnamic **aldehyde**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of; preparation and characterization of polymer-protected cobalt colloid catalyst in organic solvent)

IT **7440-05-3**, Palladium, uses 7440-48-4, Cobalt, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation and characterization of **polymer-protected** cobalt colloid catalyst in organic solvent)

L83 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:282716 HCAPLUS
DOCUMENT NUMBER: 124:326097
TITLE: Polymer-protected bimetallic clusters with various alloying structures
AUTHOR(S): Toshima, Naoki
CORPORATE SOURCE: Dep. Appl. Chem., Sch. Eng., Univ. Tokyo, Hongo, 113, Japan
SOURCE: Macromolecular Symposia (**1996**), 105(6th International Symposium on Macromolecule-Metal Complexes, 1995), 111-118
CODEN: MSYMEC; ISSN: 1022-1360
PUBLISHER: Huethig & Wepf
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-05-3D**, Palladium, clusters **7440-06-4D**, Platinum, clusters **7440-16-6D**, Rhodium, clusters
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(**polymer-protected** bimetallic clusters with various alloying structures)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Colloidal dispersions of polymer-protected bimetallic cluster can be prepared by refluxing the **alc.** solns. of two kinds of metal ions in the presence of poly(N-vinyl-2-pyrrolidone). The bimetallic clusters thus prepared had higher activity as catalysts than the corresponding monometallic clusters. The structure of bimetallic clusters, analyzed by an Extended X-ray Absorption Fine Structure (EXAFS) technique as well as UV-visible (Uv-vis) absorption spectra, depends on the preparation method. Some of them have a special core-shell structure. The order of the tendency to be a core is estimated to be Au>Pt>Pd>Rh. This order could be explained by the redox potential of the corresponding metal ion and the coordination ability of the metal to polymer.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 36, 66
IT **Hydrogenation catalysts**
(for 1,3-cyclooctadiene; polymer-protected bimetallic clusters with various alloying structures)
IT **7440-05-3D**, Palladium, clusters **7440-06-4D**, Platinum, clusters **7440-16-6D**, Rhodium, clusters 7440-57-5D, Gold, clusters 9003-39-8, Poly(N-vinyl-2-pyrrolidone)
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(**polymer-protected** bimetallic clusters with various alloying structures)

L83 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:1040 HCAPLUS
DOCUMENT NUMBER: 124:127954
TITLE: Polymer-protected palladium and platinum catalysts in the nanometer size range
AUTHOR(S): Mayer, A. B. R.; Mark, J. E.
CORPORATE SOURCE: Polymer Research Center, University Cincinnati, Cincinnati, OH, 45221-0172, USA
SOURCE: Polymeric Materials Science and Engineering (**1995**), 73, 220-1
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(**polymer-protected** palladium and platinum catalysts in nanometer size range)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB We report some results for several nonionic polymers and cationic polyelectrolytes and their ability to stabilize palladium and platinum colloids. Both steric and electrostatic stabilization of the metal colloid can be combined by the use of polyelectrolytes. In addition, the catalytic activity of these systems has been tested by the hydrogenation of cyclohexene as a model reaction.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38, 66
IT **Hydrogenation catalysts**
(for cyclohexene; polymer-protected palladium and platinum catalysts in nanometer size range)
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses 9003-08-1D, methylated 9003-39-8 9011-16-9, Maleic anhydride-methylvinyl ether copolymer 24937-72-2, Poly(maleic anhydride) 25086-89-9 25249-16-5, Poly(2-**hydroxyethylmethacrylate**) 25322-68-3, Poly(ethylene oxide) 25703-79-1, Poly(2-**hydroxypropylmethacrylate**) 25805-17-8, Poly(2-ethyl-2-oxazoline) 26062-79-3, Poly(diallyldimethyl ammonium chloride) 28062-44-4 29471-77-0 50851-57-5, Poly(styrene sulfonic acid) 68039-13-4, Poly(methacrylamidopropyltrimethyl ammonium chloride)
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(**polymer-protected** palladium and platinum catalysts in nanometer size range)

L83 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:213871 HCAPLUS
DOCUMENT NUMBER: 104:213871
TITLE: Polymer effect on fine metal particles and reactive metal complexes
AUTHOR(S): Hirai, Hidefumi
CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Makromolekulare Chemie, Supplement (**1985**), 14, 55-69
CODEN: MCSUEU; ISSN: 0253-5904
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, uses and miscellaneous **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, **polymer-coated** colloid particles, for hydrogenation of alkenes)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

IT **7440-50-8**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, **polymer-coated** colloid, for hydration of acrylonitrile)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

AB Colloidal dispersions of various metals in liquid are prepared by reduction of the corresponding metal salts in the presence of protective polymer. The average diams. of the metal particles are controlled in the range 9-150 Å by using appropriate species of protective polymers, reducing reagents, and additives. The colloidal Rh of 9 Å in average diameter has a high catalytic activity for hydrogenation of internal olefins. The colloidal Pd of 18 Å in average diameter exhibits a high catalytic selectivity for hydrogenation of diene to monoene. The protective polymers, e.g., poly(vinyl **alc.**), poly(N-vinyl-2-pyrrolidone), play an important role in stabilizing the colloidal dispersion as a protective colloid and in increasing the catalytic selectivity through the interaction with the metal particles. A PhMe solution of AlCuCl4 protected by cross-linked polystyrene was prepared as a solid adsorbent of CO. The polymer protects the water-sensitive metal complex against H2O contained in the gas. The protecting effect of polymer depends on the species of solvent used in the preparation of solid adsorbent. The polymer effect is discussed on the basis of the interactions of the metal complex with the polymer and with the solvent.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 23, 37
IT **Hydrogenation catalysts**
(palladium or rhodium colloids, coated with polymers, for alkenes)
IT **7440-05-3**, uses and miscellaneous **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, **polymer-coated** colloid particles, for hydrogenation of alkenes)
IT **7440-50-8**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, **polymer-coated** colloid, for hydration of acrylonitrile)

L83 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:429207 HCAPLUS
DOCUMENT NUMBER: 103:29207
TITLE: Internal short-circuit battery-type catalysts for oxidation or reduction of organic compounds

PATENT ASSIGNEE(S): Japan Storage Battery Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60044051	A2	19850308	JP 1983-151133	19830818 <--

PRIORITY APPLN. INFO.: JP 1983-151133 19830818 <--

IT **7440-06-4**, uses and miscellaneous **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, short-circuit battery-type, sulfo group-containing **fluoropolymers coated** with, with PTFE binder)

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Mixts. of ion exchanging resin powders (or short fibers) coated with metal effective for electrolytic reduction of oxidants and those coated with metal effective for electrolytic oxidation of reductants are found by fluoro resins to give title catalysts. Thus, Pt-coated resin, prepared by treating perfluorocarbon containing SO3H group 1st with hydrazine and then with chloroplatinic acid, and Rh-coated resin, prepared similarly, were mixed with H2O, kneaded with PTFE, vacuum dried, and pelletized to give catalysts. Aqueous MeOH containing the catalysts was bubbled with air to give HCHO with 47% conversion in 1 h vs. 7% using fluoro resin-bound Pt black.

IC ICM B01J031-26
ICA C07C045-38; C07C047-052; C25B003-02; C25B003-04
CC 72-2 (Electrochemistry)
Section cross-reference(s): 23, 67
ST oxidn catalyst metal coated resin; redn catalyst metal coated resin; catalyst oxidn redn; **formaldehyde** prepn catalytic oxidn; electroredn catalyst metal coated fluoropolymer; electrooxidn catalyst metal coated fluoropolymer
IT **Oxidation catalysts**
Reduction catalysts
(electrochem., metal-coated ion-exchanging resin powders or fibers with fluoropolymer resin binders, for organic compds.)
IT **7440-06-4**, uses and miscellaneous **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, short-circuit battery-type, sulfo group-containing **fluoropolymers coated** with, with PTFE binder)

L83 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:429206 HCAPLUS

DOCUMENT NUMBER: 103:29206
TITLE: Internal short-circuit battery-type catalysts for oxidation or reduction of organic compounds
PATENT ASSIGNEE(S): Japan Storage Battery Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60044052	A2	19850308	JP 1983-151136	19830818 <--
PRIORITY APPLN. INFO.:			JP 1983-151136	19830818 <--

IT **7440-06-4**, uses and miscellaneous **7440-16-6**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts from sulfo group-containing **fluoropolymer coated** with, short-circuit battery-type, with uncoated fluoropolymer and PTFE binder)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Mixts. of (1) ion exchange resin powders (or short fibers) coated with metal effective for electrolytic reduction of oxidants, (2) those coated with metal effective for electrolytic oxidation of reductants, and (3) those uncoated are bonded by fluoro resin to give title catalysts. Thus, Pt-coated resin, prepared by treating perfluorocarbon containing SO3H group 1st with hydrazine and then with chloroplatinic acid, Rh-coated resin prepared similarly, and uncoated resins were mixed with H2O, kneaded with PTFE, vacuum dried, and pelletized to give catalysts. Aqueous MeOH containing the catalysts was bubbled with air to give HCHO with 47% conversion in 1 h vs. 7% using fluoro resin-bonded Pt black.

IC ICM B01J031-26
ICA C07C045-38; C07C047-052; C25B003-02; C25B003-04
CC 72-2 (Electrochemistry)
Section cross-reference(s): 23, 67
ST oxidn catalyst metal coated resin; redn catalyst metal coated resin; catalyst oxidn redn; **formaldehyde** prepn catalytic oxidn; electroredn catalyst coated fluoropolymer; electrooxidn catalyst coated fluoropolymer
IT **Oxidation catalysts**
Reduction catalysts
(electrochem., metal-coated sulfo group-containing fluoropolymers and uncoated sulfo group-containing fluoropolymers bond with fluoropolymers, for organic compds.)
IT **7440-06-4**, uses and miscellaneous **7440-16-6**, uses and miscellaneous

RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts from sulfo group-containing **fluoropolymer coated** with, short-circuit battery-type, with uncoated fluoropolymer and PTFE binder)

=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 15:33:46 ON 30 AUG 2004

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d l97 ibib hitstr abs hitind
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L97 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:273019 HCAPLUS
DOCUMENT NUMBER: 136:312497
TITLE: Liquid fuel fuel cell
INVENTOR(S): Oaka, Tetsuya; Kadoma, Satoyuki
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan; Waseda University
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002110190	A2	20020412	JP 2000-292976	20000926 <--
PRIORITY APPLN. INFO.:			JP 2000-292976	20000926 <--

IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(electrode catalyst layers containing heterocyclic **polymer** compound **coated** catalyst particle for fuel cells using liquid fuels)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB The fuel cell has a H+ conductive polymer electrolyte membrane, a pair of electrodes holding the membrane, and means supplying a liquid fuel to 1 electrode and an oxidant to the other electrode; where the electrodes has

a catalyst layer connected to the electrolyte membrane, and the electrolyte layer contains H+ conducting polymer compound loaded catalyst particles at least on its surface. The electrolyte membrane may be a composite containing a H+ conductive polymer electrolyte and a polymer compound impermeable for the liquid fuel. The polymer compound is preferably a heterocyclic compound, and the fuel is selected from alcs., ethers, and ketones.

IC ICM H01M008-02
ICS H01M008-02; B01D069-02; B01D071-82; H01M004-86; H01M008-10; B01D071-34

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(electrode catalyst layers containing heterocyclic **polymer** compound **coated** catalyst particle for fuel cells using liquid fuels)

=> d l97 ibib hitstr abs hitind 2-20
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L97 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:420559 HCAPLUS
DOCUMENT NUMBER: 133:32683
TITLE: Fuel cell electrodes and their manufacture
INVENTOR(S): Hitomi, Shuji
PATENT ASSIGNEE(S): Japan Storage Battery Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
JP 2000173624	A2	20000623	JP 1999-78885		19990324	<--
DE 10004955	A1	20000817	DE 2000-10004955		20000204	<--
PRIORITY APPLN. INFO.:			JP 1998-296157	A	19981003	<--
			JP 1999-29045	A	19990205	<--
			JP 1999-78885	A	19990324	<--
			JP 1999-78889	A	19990324	<--

IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(structure and manufacture of fuel cell electrodes containing polymer electrolyte-catalyst layer on porous **polymer coated** carbon substrates)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

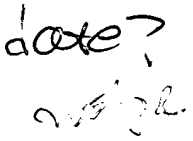
Pt

AB The electrodes have a catalyst layer containing a solid polymer electrolyte on a porous conductive substrate, where the substrate contains a porous resin. The electrodes are prepared by: impregnating a porous conductive material with a solution of a resin dissolved in a 1st solvent, immersing the impregnated material in a 2nd solvent miscible with the 1st solvent but

insol. for the resin to form a porous resin layer on the material, and joining the material with an electrolyte containing catalyst layer.

IC ICM H01M004-86
ICS H01M004-88; H01M008-02; H01M008-10
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(structure and manufacture of fuel cell electrodes containing polymer electrolyte-catalyst layer on porous **polymer coated** carbon substrates)

L97 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:325161 HCAPLUS
DOCUMENT NUMBER: 133:30834
TITLE: Selective hydrogenation of citronellal to citronellol over polymer-stabilized noble metal colloids
AUTHOR(S): Yu, Weiyong; Liu, Hanfan; Liu, Manhong; Liu, Zhijie
CORPORATE SOURCE: Polymer Chemistry Laboratory, Chinese Academy of Sciences and China PetroChemical Corporation, Beijing, 100080, Peop. Rep. China
SOURCE: Reactive & Functional Polymers (**2000**), 44(1), 21-29
CODEN: RFPOF6; ISSN: 1381-5148
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:30834
IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, use
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of citronellal to citro **polymer-stabilized** noble metal colloids)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)



Pt

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB Citronellal was hydrogenated to citronellol by polymer-stabilized Pt and Ru colloids. The metal cations increased both the activity and the selectivity of the colloids. The modification was assumed to be due to the adsorbed metal cations activating the C=O double bonds, thus accelerating the reaction rate and increasing the selectivity to unsatd. alcs.

CC 30-10 (Terpenes and Terpenoids)
IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, uses
9003-39-8, Poly(N-vinyl-2-pyrrolidone)
RL: **CAT (Catalyst use)**; USES (Uses)
(selective hydrogenation of citronellal to citronellol over **polymer-stabilized** noble metal colloids)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L97 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:5567 HCAPLUS
DOCUMENT NUMBER: 132:41025
TITLE: Chemisorption measurements on polymer-stabilized colloidal platinum and rhodium nanoclusters in liquid dispersion
AUTHOR(S): Bradley, John S.; Busser, Wilma
CORPORATE SOURCE: Max-Planck-Institut fur Kohlenforschung, Mulheim an der Ruhr, D-45470, Germany
SOURCE: Catalysis Letters (**1999**), 63(3,4), 127-130
CODEN: CALEER; ISSN: 1011-372X
PUBLISHER: Baltzer Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(chemisorption measurements on **polymer-stabilized** colloidal platinum and rhodium nanoclusters in liquid dispersion)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB A simple method is reported for the precise and accurate differential barometric measurement of gas adsorption into liquid dispersions of colloidal metal catalysts. Using both hydrogen adsorption and hydrogen/oxygen titration the fraction of the total surface of polyvinylpyrrolidone-stabilized Pt and Rh colloids available for adsorption is found to be approx. 44%. This method is also applicable to supported metal catalysts in liquid slurries.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 66
IT **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses
9003-39-8, Polyvinylpyrrolidone
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(chemisorption measurements on **polymer-stabilized** colloidal platinum and rhodium nanoclusters in liquid dispersion)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L97 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:281538 HCAPLUS
DOCUMENT NUMBER: 130:317963
TITLE: Incorporation of catalytic noble metals in conductive polymer film-coated electrode and electrocatalytic hydrogenation
AUTHOR(S): Takano, Nobuhiro; Nakade, Akihito
CORPORATE SOURCE: Department of Applied Chemistry, Muroran Institute of Technology, Mizumoto-cho, Muroran, 050-8585, Japan
SOURCE: Electrochemistry (Tokyo) (**1999**), 67(5), 463-465

CODEN: EECTFA; ISSN: 1344-3542
PUBLISHER: Electrochemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(incorporation of catalytic noble metals in conductive **polymer** film-**coated** electrode and electrocatalytic hydrogenation)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Catalytic film electrodes which were coated with poly [N-(5-hydroxypentyl) pyrrole] film and incorporated catalytic noble metals such as platinum, rhodium, and gold in the film were prepared The order of incorporating amount in the film was gold, platinum, and rhodium. By use of these catalytic electrodes the electrochem. hydrogenation of Me benzoylformate in an ethanol-HCl buffer solution was investigated. The hydrogenation on all catalytic electrodes provided Me mandelate and the efficiency was good particularly on the electrode incorporating gold metal.
CC 72-2 (Electrochemistry)
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses 7440-57-5, Gold, uses
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(incorporation of catalytic noble metals in conductive **polymer** film-**coated** electrode and electrocatalytic hydrogenation)

L97 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:809072 HCAPLUS
DOCUMENT NUMBER: 130:130381
TITLE: Preparation, characterization, and catalytic properties of polymer-stabilized ruthenium colloids
AUTHOR(S): Yu, Weiyong; Liu, Manhong; Liu, Hanfan; Ma, Xiaomong; Liu, Zhijie
CORPORATE SOURCE: Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Colloid and Interface Science (**1998**), 208(2), 439-444
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic Press

DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation, characterization, and catalytic properties of **polymer -stabilized** ruthenium colloids)
RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB Poly(N-vinyl-2-pyrrolidone) (PVP)-stabilized ruthenium colloids were prepared by NaBH4 reduction at room temperature and characterized by transmission electron microscopy and x-ray photoelectron spectra. The average diams. of the colloids were 1.3-1.8 nm with σ = 0.4-0.7 nm with respect to the preparation conditions. The PVP-stabilized ruthenium colloids were used as catalysts in the hydrogenations of cyclooctene and n-heptene and the selective hydrogenation of citronellal to citronellol. / (c) 1998 Academic Press.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 23, 24, 38, 66
IT **7440-18-8**, Ruthenium, uses 9003-39-8, Poly(N-vinyl-2-pyrrolidone)
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation, characterization, and catalytic properties of **polymer -stabilized** ruthenium colloids)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L97 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:683087 HCAPLUS
DOCUMENT NUMBER: 129:316649
TITLE: Novel biodegradable copolymers containing pendant amine functional groups based on aspartic acid and poly(ethylene glycol)
AUTHOR(S): Won, Chee-Youb; Chu, Chih-Chang; Lee, Jong Doo
CORPORATE SOURCE: Fiber and Polymer Science Program, Dep. Textiles and Apparel, Cornell Univ., Ithaca, NY, 14853, USA
SOURCE: Polymer (**1998**), 39(25), 6677-6681
CODEN: POLMAG; ISSN: 0032-3861
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(charcoal-supported, with 1,4-cyclohexadiene; **polymer deprotection** over)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

AB A new biodegradable poly(L-aspartic acid-co-poly(ethylene glycol)) having pendant amine functional groups was synthesized by the melt polycondensation reaction of prepolymer prepared from N-(benzyloxycarbonyl)-

L-aspartic acid anhydride (N-Z-L-aspartic acid anhydride) and poly(ethylene glycol). The synthesized polymer was characterized by FTi.r., 1H n.m.r., d.s.c., g.p.c. and solubility The weight-average mol. weight of the prepolymer increased about 11 times via melt polycondensation at 160°C in a vacuum for <1 h.

CC 35-5 (Chemistry of Synthetic High Polymers)

IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(charcoal-supported, with 1,4-cyclohexadiene; **polymer deprotection** over)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L97 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:646212 HCAPLUS
DOCUMENT NUMBER: 127:339104
TITLE: Polymer-protected Pt/Ru bimetallic cluster catalysts for visible-light-induced hydrogen generation from water and electron transfer dynamics
AUTHOR(S): Toshima, Naoki; Hirakawa, Kazutaka
CORPORATE SOURCE: Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda-shi, Yamaguchi, 756, Japan
SOURCE: Applied Surface Science (**1997**), 121/122, 534-537
CODEN: ASUSEE; ISSN: 0169-4332
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(**polymer-protected** Pt/Ru bimetallic cluster catalysts for visible-light-induced H2 generation from H2O and electron transfer dynamics)

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB Colloidal dispersions of platinum/ruthenium bimetallic clusters, as well as those of platinum and ruthenium monometallic clusters, were prepared by alc. reduction and applied to visible-light-induced hydrogen generation in the electron transfer system of tris(bipyridine)ruthenium(II) dichloride/methyl viologen dichloride/metal cluster/EDTA disodium salt. Hydrogen generation rates are in proportion to the concentration of cluster metal at low concentration (about 10-6 to 10-5 mol dm-3), where the platinum/ruthenium bimetallic cluster is more active as a catalyst than platinum and ruthenium monometallic clusters. In addition, even the phys. mixture of

platinum and ruthenium monometallic clusters is more active than platinum and ruthenium monometallic clusters. Electron transfer rates from the Me viologen radical cation to metal clusters were measured as well and compared with the hydrogen generation rates. Thus, both rates are in proportion to each other, suggesting that the hydrogen generation rate can be controlled by the electron transfer rate.

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 67

IT **7440-06-4**, Platinum, uses **7440-18-8**, Ruthenium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(**polymer-protected** Pt/Ru bimetallic cluster catalysts for visible-light-induced H2 generation from H2O and electron transfer dynamics)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L97 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:430587 HCAPLUS
DOCUMENT NUMBER: 127:196024
TITLE: Immobilization of polymer-stabilized noble metal colloids and their catalytic properties for hydrogenation of olefins
AUTHOR(S): Wang, Qian; Liu, Hanfan; Wang, Hongge
CORPORATE SOURCE: Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Colloid and Interface Science (**1997**), 190(2), 380-386
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(immobilization of **polymer-stabilized** noble metal colloids and their catalytic properties for hydrogenation of olefins)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Polymer-stabilized noble metal colloids were efficiently immobilized on

silica by the addition of organic acids under mild conditions. The function of organic acids in the immobilization was studied by IR spectroscopy. Transmission electron micrographs indicate that the immobilized colloids have a controlled particle size and size distribution. They serve as catalysts in the hydrogenation of cyclohexene and cyclopentadiene, the results of which show that this new type of immobilized colloid has high selectivity and good stability.

CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 24, 38, 66

IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses 7631-86-9, Silica, uses 9002-89-5, PVA 9003-39-8, PVP
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(immobilization of **polymer-stabilized** noble metal colloids and their catalytic properties for hydrogenation of olefins)

L97 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:191430 HCAPLUS
DOCUMENT NUMBER: 126:263733
TITLE: Carbonylation of methanol catalyzed by polymer-protected rhodium colloid
AUTHOR(S): Wang, Qian; Liu, Hanfan; Han, Ming; Li, Xiaobao; Jiang, Dazhi
CORPORATE SOURCE: Division of Polymer Chemistry, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Molecular Catalysis A: Chemical (**1997**), 118(2), 145-151
CODEN: JMCCF2; ISSN: 1381-1169
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-16-6D**, Rhodium, poly(N-vinyl-2-pyrrolidone) **polymer -protected**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(carbonylation of methanol catalyzed by **polymer-protected** rhodium colloid)

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Poly(N-vinyl-2-pyrrolidone)(PVP) protected rhodium colloid (Rh-PVP) was used as a catalyst for methanol carbonylation under elevated temperature (140°) and high pressure (5.4 MPa). The activity of Rh-PVP colloid catalyst increased while recycled for 6 times totally lasting 56.5 h. During the reaction, the catalyst was still in a colloidal state verified by TEM observation. XPS and IR studies of the catalyst demonstrated that colloidal rhodium metal particles partially changed to [Rh(CO)2I2]- under the reaction conditions. The rhodium ions in the reaction mixture amounted to 29 of the total charged rhodium after 13 h carbonylation. An addnl. XPS investigation of the catalyst was carried out; the results showed that oxidative addition of Me iodide to rhodium colloid caused the transformation of rhodium species from Rh0 to Rh1+.

CC 22-4 (Physical Organic Chemistry)
Section cross-reference(s): 67

IT **7440-16-6D**, Rhodium, poly(N-vinyl-2-pyrrolidone) **polymer**

-**protected**, uses 9003-39-8D, rhodium-colloid
RL: **CAT (Catalyst use)**; USES (Uses)
(carbonylation of methanol catalyzed by **polymer-protected** rhodium colloid)

L97 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:514076 HCAPLUS
DOCUMENT NUMBER: 125:178515
TITLE: Preparation of polymer-protected colloidal dispersions of copper as catalysts
AUTHOR(S): Ma, Sunhua; Liu, Xinpeng; Xia, Shaowu; Li, Jinshan
CORPORATE SOURCE: Department Applied Chemistry, Qingdao Institute Chemical Technology, Tsingtao, Peop. Rep. China
SOURCE: Qingdao Huagong Xueyuan Xuebao (**1996**), 17(2), 155-159, 162
CODEN: QHUXEQ; ISSN: 1001-4764
PUBLISHER: Qingdao Huagong Xueyuan Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
IT **7440-50-8P**, Copper, uses
RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of **polymer-protected** colloidal dispersions of copper as catalysts)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

AB Colloidal copper dispersions are prepared by reducing copper(II) chloride solution in water with hydrazine and sodium hydroxide in the presence of protected polymer of poly(N-vinyl-2-pyrrolidone). The dispersions are stable under air at room temperature and are highly active catalysts for hydration of acrylonitrile to acrylamide. The conditions and method of preparation of polymer protected colloidal dispersions of copper as catalysts are expounded, and the exptl. results are theor. discussed.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 35, 66
IT **7440-50-8P**, Copper, uses
RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of **polymer-protected** colloidal dispersions of copper as catalysts)

L97 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:282726 HCAPLUS
DOCUMENT NUMBER: 125:33124
TITLE: Reaction conducted under rather severe conditions for a colloidal catalyst - hydroformylation of propylene catalyzed by polymer-protected rhodium colloids
AUTHOR(S): Han, Ming; Liu, Hanfan
CORPORATE SOURCE: Div. Polymer Chem., Inst. Chem., Chinese Acad. Sci., Beijing, 100080, Peop. Rep. China
SOURCE: Macromolecular Symposia (**1996**), 105(6th International Symposium on Macromolecule-Metal Complexes, 1995), 179-183
CODEN: MSYMEC; ISSN: 1022-1360
PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(hydroformylation of propylene catalyzed by **polymer-protected** rhodium colloids)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB A symposium. Hydroformylation of propylene has been conducted by a polymer-protected rhodium colloid catalyst with an activity of 130 mol butanal/g atom Rh·h. The neat colloid catalyst is stable enough for repeated use for 7 times lasting .apprx.50 h under the reaction condition (temperature: 363 K, pressure: 40 bar) with a total TON of 5,065 cycle/atom Rh.
CC 23-14 (Aliphatic Compounds)
IT **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(hydroformylation of propylene catalyzed by **polymer-protected** rhodium colloids)

L97 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:180991 HCAPLUS
DOCUMENT NUMBER: 124:342327
TITLE: Carbonylation of methanol catalyzed by polymer-protected rhodium colloids under rather severe conditions
AUTHOR(S): Wang, Qian; Liu, Hanfan; Han, Ming; Li, Xiaobao; Jiang, Dazhi
CORPORATE SOURCE: Institute Chemistry, Chinese Academy Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Cuihua Xuebao (**1996**), 17(1), 3-4
CODEN: THHPD3; ISSN: 0253-9837
PUBLISHER: Kexue
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-16-6D**, Rhodium, PVP tied colloidal
RL: **CAT (Catalyst use)**; USES (Uses)
(carbonylation of methanol catalyzed by **polymer-protected** rhodium colloids)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB The title reaction, using a stable reusable colloidal Rh-PVP catalyst at 413 K, involved a homogeneous catalytic mechanism. The turn-over number reached 19 700 cycle/Rh; the Arrhenius kinetics were discussed.
CC 22-4 (Physical Organic Chemistry)
Section cross-reference(s): 67
IT **7440-16-6D**, Rhodium, PVP tied colloidal 9003-39-8, PVP
10049-07-7, Rhodium trichloride
RL: **CAT (Catalyst use)**; USES (Uses)
(carbonylation of methanol catalyzed by **polymer-**

protected rhodium colloids)

L97 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:1003113 HCAPLUS
DOCUMENT NUMBER: 124:67847
TITLE: 195Pt NMR of Polymer-Protected Pt/Pd Bimetallic Catalysts
AUTHOR(S): Tong, Y. Y.; Yonezawa, Tetsu; Toshima, Naoki; van der Klink, J. J.
CORPORATE SOURCE: Institut de Physique Experimentale, Ecole Polytechnique Federale, Lausanne, CH-1015, Switz.
SOURCE: Journal of Physical Chemistry (**1996**), 100(2), 730-3
CODEN: JPCHAX; ISSN: 0022-3654
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(195Pt NMR of **polymer-protected** Pt/Pd bimetallic catalysts)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Colloids of Pt, Pt0.8Pd0.2, and Pt0.2Pd0.8 particles of approx. 2.5 nm diameter with poly(N-vinyl-2-pyrrolidone) as protecting agent were dried, and the 195Pt NMR spectrum and nuclear spin-lattice relaxation rates were measured. The spectra indicate that the particles are indeed bimetallic and that the composition of their interior corresponds well to the nominal value. A strong variation of catalytic activity of these systems with composition around Pt0.2Pd0.8 has been reported in the literature. We suggest that this effect is related to corresponding variations in the local densities of electronic states at the Fermi energy on the surface sites of the catalytic metal.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 56, 65, 66, 77
IT **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses 9003-39-8, Poly(N-vinyl-2-pyrrolidone) 70495-83-9, Palladium 20, platinum 80 (atomic) 70495-87-3, Palladium 80, platinum 20 (atomic)
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(195Pt NMR of **polymer-protected** Pt/Pd bimetallic catalysts)

L97 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:401701 HCAPLUS
DOCUMENT NUMBER: 123:13560
TITLE: Modification and characterization of fuel-producing photoelectrodes with new type of organic surface layers

AUTHOR(S): Baeuerle, P.; Hiller, M.; Goetz, G.; Scheib, S.; Effenberger, F.
CORPORATE SOURCE: Germany
SOURCE: Wasserst. Energietraeger, Kolloq. 1994 Sonderforschungsbereichs 270 Univ. Stuttgart (**1994**), 121-32. VDI: Duesseldorf, Germany. CODEN: 60ZDA8
DOCUMENT TYPE: Conference; General Review
LANGUAGE: German
IT **7440-16-6D**, Rhodium, complexes with polythiophene
RL: **CAT (Catalyst use)**; USES (Uses)
(functionalized polythiophene monomers with quinoxaline and Rh complexes and **polymer coatings** on electrodes for H manufacture)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB A review with 30 refs. on halogenalkyl thiophene monomer, prepared via Ni-catalyzed Grignard reactions and functionalized with quinoxaline or organometallic Rh complexes. Their polymerization on Pt or glassy C electrodes were executed by potentiodynamic or potentiostatic electrooxidn. Polymer films were characterized by cyclic voltammetry. Significant catalytic activity of the Rh complex monomers was determined in aqueous solution on Hg electrodes.
CC 52-0 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 28, 29
IT **7440-16-6D**, Rhodium, complexes with polythiophene
RL: **CAT (Catalyst use)**; USES (Uses)
(functionalized polythiophene monomers with quinoxaline and Rh complexes and **polymer coatings** on electrodes for H manufacture)

L97 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:439002 HCAPLUS
DOCUMENT NUMBER: 121:39002
TITLE: Hydrocarbon conversion processes with molecular sieve agglomerates having improved transport properties
INVENTOR(S): Pellet, Regis J.; Gortsema, Frank P.
PATENT ASSIGNEE(S): UOP Inc., USA
SOURCE: U.S., 14 pp. Cont.-in-part of U.S. 5,168,082. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
US 5316656	A	19940531	US 1991-702487		19910520	<--
US 5168084	A	19921201	US 1990-519972		19900507	<--
PRIORITY APPLN. INFO.:			US 1990-519972	A2	19900507	<--

IT **7440-02-0**, Nickel, uses **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, for hydrocarbon conversion, on **polymer coated** SAPO-11 with improved transport properties)
RN 7440-02-0 HCAPLUS

CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

AB Mol. sieve agglomerates exhibiting reduced pore mouth blockage and decreased diffusivity resistance to the internal sieve pores result from coating, prior to addition of a binding agent to the sieve, the mol. sieve particles with an organic polymer, fixing the polymer to the sieve surface so that it exhibits no migratory tendencies and subsequently removing the coating by combustion during calcination of the formed agglomerate. Such agglomerates showed enhanced activity and selectivity in typical refining processes such as dewaxing and fluid catalytic cracking. The mol. sieve agglomerates also may be employed in other hydrocarbon conversion processes such as hydrocracking, dehydrocyclization, isomerization, hydrofining, reforming, and dealkylation.
IC ICM C10G045-64
ICS C10G011-05
NCL 208120000
CC 51-6 (Fossil Fuels, Derivatives, and Related Products)
IT 7439-98-7, Molybdenum, uses **7440-02-0**, Nickel, uses **7440-05-3**, Palladium, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, for hydrocarbon conversion, on **polymer coated** SAPO-11 with improved transport properties)

L97 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:63062 HCAPLUS
DOCUMENT NUMBER: 118:63062
TITLE: Preparation of polymer-protected gold/platinum bimetallic clusters and their application to visible light-induced hydrogen evolution
AUTHOR(S): Toshima, Naoki; Yonezawa, Tetsu
CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Makromolekulare Chemie, Macromolecular Symposia (**1992**), 59(Int. Symp. Macromol.-Met. Complexes, 4th, 1991), 281-95
CODEN: MCMSES; ISSN: 0258-0322
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, containing gold, clusters of, preparation of **polymer-protected**, for visible light-induced hydrogen evolution)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB The dispersions of polymer-protected Au/Pt bimetallic clusters were easily and reproducibly prepared by refluxing the mixed solns. of HAuCl4 and H2PtCl6 in EtOH/water (1/1) at 90-95° for 2 h in the presence of a protective polymer, e.g., poly(N-vinyl-2-pyrrolidone) (I). The Au/Pt bimetallic clusters thus obtained were very small, well dispersed, and very stable. The UV-visible spectra and the transmission electron micrographs have indicated that each bimetallic particle has an alloy structure consisting of both Au and Pt atoms and the surface of the cluster particle is rich in Pt atoms and the inner core in Au atoms. The Au/Pt bimetallic clusters were used as the multi-electron redox catalysts for visible light-induced H evolution from water. The rate of H evolution depended on the molar ratio of the Au/Pt bimetallic clusters. The bimetallic clusters having Au/Pt molar ratio 2/3 were the most active catalysts. The in-situ UV-visible spectra during the reaction have indicated that the order of the aggregation in the 2 kinds of metal atoms is very important for structure determination of the Au/Pt bimetallic clusters. The protective polymer I plays a role not only in protecting hydrophobic colloidal particles in an aqueous solution, but also in determining the metal composition of the cluster surface.

CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49, 67, 74

IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, containing gold, clusters of, preparation of **polymer-protected**, for visible light-induced hydrogen evolution)

L97 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:102631 HCAPLUS
DOCUMENT NUMBER: 110:102631
TITLE: Supporting of noble-metal colloidal particles on metal oxide
INVENTOR(S): Deguchi, Ryoji; Fukuoka, Yohei
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63242348	A2	19881007	JP 1987-76254	19870331 <--
JP 2549858	B2	19961030		
PRIORITY APPLN. INFO.:			JP 1987-76254	19870331 <--

IT **7440-06-4**, Platinum, uses and miscellaneous **7440-18-8**, Ruthenium, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, supporting of, on metal oxides, **polymer protective** colloids for)

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

AB The title method involves mixing a colloidal-particle dispersion, which contains a Group VIII element (e.g., Ru), Ag, or Au and is stabilized using a polymer (e.g., polyvinyl alc.)) as protective colloids, with a metal oxide (e.g., ZrO2), and heating to make the colloidal particles loose the dispersing property.
IC ICM B01J023-40
ICS B01J013-00; B01J037-02
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
IT **7440-06-4**, Platinum, uses and miscellaneous **7440-18-8**, Ruthenium, uses and miscellaneous 7440-22-4, Silver, uses and miscellaneous 7440-57-5, Gold, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, supporting of, on metal oxides, **polymer protective** colloids for)

L97 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1983:488598 HCAPLUS
DOCUMENT NUMBER: 99:88598
TITLE: Polymer-protected copper colloids as catalysts for selective hydration of acrylonitrile
AUTHOR(S): Hirai, Hidefumi; Wakabayashi, Hidehiko; Komiyama, Makoto
CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Chemistry Letters (**1983**), (7), 1047-50
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-50-8**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydration of acrylonitrile to acrylamide, **polymeric protective** colloids for)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

AB Stable colloidal dispersions of Cu in water are prepared by the reduction of copper sulfate with sodium tetrahydroborate in the presence of poly(vinylpyrrolidone) [9003-39-8], poly(vinyl alc.) [9002-89-5], dextrin [9004-53-9], or poly(Me vinyl ether) [9003-09-2]. The poly(vinylpyrrolidone)-protected Cu colloids are effective for the selective catalysis in hydration of acrylonitrile [107-13-1] to acrylamide [79-06-1] at 80° in water.
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 67
IT **7440-50-8**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydration of acrylonitrile to acrylamide, **polymeric protective** colloids for)

L97 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1982:431210 HCAPLUS
DOCUMENT NUMBER: 97:31210

TITLE: Photolytic hydrogen production from water
INVENTOR(S): Gratzel, Michael; Brugger, Pierre Alain; Cuendet, Pierre
PATENT ASSIGNEE(S): Engelhard Corp., USA
SOURCE: Fr. Demande, 37 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2486511	A1	19820115	FR 1981-13247	19810706 <--
FR 2486511	B1	19861024		
GB 2079170	A	19820120	GB 1980-22339	19800708 <--
GB 2079170	B2	19850103		
AU 8171124	A1	19820114	AU 1981-71124	19810528 <--
AU 541624	B2	19850117		
IL 62998	A1	19840531	IL 1981-62998	19810529 <--
ZA 8103758	A	19830126	ZA 1981-3758	19810604 <--
NL 8103048	A	19820201	NL 1981-3048	19810624 <--
US 4367131	A	19830104	US 1981-279909	19810702 <--
CH 647690	A	19850215	CH 1981-4384	19810703 <--
IN 155330	A	19850119	IN 1981-CA745	19810704 <--
BR 8104306	A	19820323	BR 1981-4306	19810706 <--
SE 8104232	A	19820109	SE 1981-4232	19810707 <--
JP 57048345	A2	19820319	JP 1981-105172	19810707 <--
DE 3126797	A1	19820415	DE 1981-3126797	19810707 <--
ES 503715	A1	19821101	ES 1981-503715	19810707 <--
CA 1151139	A1	19830802	CA 1981-381334	19810708 <--
PRIORITY APPLN. INFO.:			GB 1980-22339	19800708 <--

IT **7440-06-4**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, **polymer-protected**, for hydrogen production in photolysis of water)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB A catalyst capable of forming a stable dispersion in an aqueous solution to cause the release of H2 from H2O by photolysis consists of a mixture of ≥1 finely divided noble metals (e.g. Pt, Pd, Rh, Ru, Ir, Os, Ag, and/or Au, preferably Pt or Pd) and a water-permeable protective agent, capable of adsorbing the metal and consisting of ≥1 alkenyl glycol polymers with monomer units -O(CH2)nO-, where n >1 and in at least part of the polymer n ≥3 (e.g., ethylene glycol-propylene glycol copolymer or Carbowax 2M). The catalyst is prepared by reducing a noble metal or a noble metal compound (e.g. H2PtCl6) in aqueous solution and adding the protective agent.

Thus, an aqueous solution containing a photosensitizer (e.g. Ru(bipy)32+) was irradiated by visible light for >50 min, the excited photosensitizer was contacted with an electron acceptor (e.g., methyl violet) to give a reduced acceptor in aqueous solution in the presence of an electron donor (e.g. EDTA), and the stabilized and finely dispersed catalyst reduced H2O to form gaseous H2. The highest H2 yields were obtained with carbowas 20-M,

PAA 26000, hydroxyethyl cellulose, and Alcotex-99 as protective polymers.
IC C01B003-16; B01J031-06; B01J037-00
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 51, 67
IT **7440-06-4**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, **polymer-protected**, for hydrogen production in photolysis of water)

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L158 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:392853 HCAPLUS
DOCUMENT NUMBER: 133:21598
TITLE: Coated **oxidation** catalyst for decomposition of halogen-containing **organic compounds**, its manufacture, and treatment of waste gas
INVENTOR(S): Fujisawa, Masatoshi; Kato, Yasuyoshi
PATENT ASSIGNEE(S): Babcock-Hitachi K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000157872	A2	20000613	JP 1998-337767	19981127 <--
PRIORITY APPLN. INFO.:			JP 1998-337767	19981127 <--

IT **7440-02-0**, Nickel, processes **7440-05-3**, Palladium, processes **7440-06-4**, Platinum, processes **7440-16-6**, Rhodium, processes **7440-18-8**, Ruthenium, processes **7440-50-8**, Copper, processes
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(porous **polymer-coated oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)
RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

RN 7440-18-8 HCAPLUS
CN Ruthenium (8CI, 9CI) (CA INDEX NAME)

Ru

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

AB A slurry or emulsion of a porous organic component optionally containing inorg. oxide particles or catalyst particles is applied on an **oxidation** catalyst and dried for formation of a porous coating. Waste gas containing deliquescent substances (e.g. alkali metals and alkaline earth metals) is treated with the coated **oxidation** catalyst at 120-350° for decomposition of halogen-containing organic compds., such as dioxin. The coating prevents the **oxidation** catalyst from deteriorating in catalytic activity caused by deliquescent substances.

IC ICM B01J033-00
ICS B01D053-86; B01J023-22; B01J023-24; B01J023-28; B01J023-30; B01J023-34; B01J023-40; B01J023-648; B01J023-70; B01J023-847

CC 59-4 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 42, 67

ST porous polymer coating **oxidn** catalyst halogen compd decompn; dioxin waste gas **oxidn** catalyst fluoropolymer coating

IT Porous materials
Porous materials
(coatings; porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)

IT **Oxidation** catalysts
Waste gases
(porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)

IT Acrylic polymers, processes
Fluoropolymers, processes
Polyamides, processes
Polysiloxanes, processes
RL: CAT (Catalyst use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)

IT Coating materials
Coating materials

(porous; porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)
IT 108-90-7, Chlorobenzene, processes
RL: REM (Removal or disposal); PROC (Process)
(decomposition of; porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)
IT 9002-84-0, MDF 30J
RL: CAT (Catalyst use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(porous polymer-coated **oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)
IT 1314-23-4, Zirconia, processes 1344-28-1, Alumina, processes 7439-88-5, Iridium, processes 7439-89-6, Iron, processes 7439-96-5, Manganese, processes **7440-02-0**, Nickel, processes **7440-05-3**, Palladium, processes **7440-06-4**, Platinum, processes **7440-16-6**, Rhodium, processes **7440-18-8**, Ruthenium, processes 7440-47-3, Chromium, processes 7440-48-4, Cobalt, processes **7440-50-8**, Copper, processes 7631-86-9, Silica, processes 7803-55-6, Ammonium metavanadate 11098-84-3, Ammonium molybdate 12028-48-7, Ammonium metatungstate 13463-67-7, Titania, processes
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(porous **polymer-coated oxidation** catalyst for decomposition of halogen-containing organic compds. in waste gas)

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L158 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:322826 HCAPLUS
DOCUMENT NUMBER: 133:9575
TITLE: Effect of quantity of polymer on catalysis and superstructure size of polymer-protected Pt **nanoclusters**
AUTHOR(S): Shiraishi, Y.; Nakayama, M.; Takagi, E.; Tominaga, T.; Toshima, N.
CORPORATE SOURCE: Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda-shi, Yamaguchi, 756-0884, Japan
SOURCE: Inorganica Chimica Acta (**2000**), 300-302, 964-969
CODEN: ICHAA3; ISSN: 0020-1693
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(effect of quantity of polymer on catalysis and superstructure size of **polymer-protected** Pt nanoclusters)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Platinum nanoclusters protected by poly(N-vinyl-2-pyrrolidone) (PVP) were prepared by ethanol **reduction** of hexachloroplatinic(IV) acid in the presence of PVP. The PVP-protected platinum nanoclusters, prepared at various mole ratios of PVP to platinum, were characterized by transmission electron microscopy (TEM), atomic force microscopy and the Taylor dispersion method. Hydrogenation of Me acrylate in ethanol under 1 atm of hydrogen at 30°C was used for evaluation of the catalytic activities, revealing that the catalytic activity of platinum nanoclusters depends on the superstructure size of the PVP-protected nanoclusters in dispersion, which can be estimated on the basis of measurements by TEM and the Taylor dispersion method.

CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 23, 38

IT **7440-06-4**, Platinum, uses 9003-39-8, Poly(N-vinyl-2-pyrrolidone) 143348-84-9, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(effect of quantity of polymer on catalysis and superstructure size of **polymer-protected** Pt nanoclusters)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L158 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:87131 HCAPLUS
DOCUMENT NUMBER: 130:214122
TITLE: Preparation of polymer-stabilized **noble metal** colloids
AUTHOR(S): Yu, Weiyong; Liu, Manhong; Liu, Hanfan; Zheng, Jingming
CORPORATE SOURCE: Polymer Chemistry Laboratory, Institute of Chemistry, Chinese Academy of Sciences, Chinese Academy of Sciences and China Petro-Chemical Corporation, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Colloid and Interface Science (**1999**), 210(1), 218-221
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **7440-05-3P**, Palladium, uses **7440-06-4P**, Platinum, uses
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of **polymer-stabilized** noble metal colloids)

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB A series of polymer-stabilized platinum and palladium colloids were prepared via methanol **reduction** for the investigation of the preparation

conditions. Through TEM observation and catalytic hydrogenation of olefins, it was found that adding a suitable amount of NaOH was good for small-sized colloidal particles and higher catalytic hydrogenation activity. (c) 1999 Academic Press.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38, 66
IT **7440-05-3P**, Palladium, uses **7440-06-4P**, Platinum, uses
RL: **CAT (Catalyst use)**; PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of **polymer-stabilized** noble metal colloids)
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L158 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:225313 HCAPLUS
DOCUMENT NUMBER: 128:282635
TITLE: Asymmetric **hydrogenation** of α-ketoesters over finely dispersed polymer-stabilized platinum clusters
AUTHOR(S): Zuo, Xiaobin; Liu, Hanfan; Liu, Manhong
CORPORATE SOURCE: Polymer Chemistry Laboratory, Chinese Academy of Sciences and China Petro-Chemical Corporation, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Japan
SOURCE: Tetrahedron Letters (**1998**), 39(14), 1941-1944
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:282635
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(asym. **hydrogenation** of α-keto esters over finely dispersed **polymer-stabilized** platinum clusters modified with cinchonidine)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Finely dispersed polyvinylpyrrolidone-stabilized platinum clusters (PVP-Pt) modified with cinchonidine catalyze the asym. **hydrogenation** of α-ketoesters, giving enantiomeric excesses in favor of R-(+)-Me lactate up to 97.6%. The reaction is demonstrated to be structure insensitive and runs best over a tiny cluster with a mean size of 1.4 nm, which is quite different from conventional supported catalysts.
CC 23-17 (Aliphatic Compounds)
ST asym **hydrogenation keto ester**; polymer stabilized platinum cluster **hydrogenation** catalyst
IT **Hydrogenation**
Hydrogenation catalysts
Solid phase synthesis
(asym. **hydrogenation** of α-keto esters over finely dispersed polymer-stabilized platinum clusters modified with cinchonidine)

IT Esters, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(keto; asym. **hydrogenation** of α-keto esters over finely dispersed polymer-stabilized platinum clusters modified with cinchonidine)
IT 485-71-2, Cinchonidine **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(asym. **hydrogenation** of α-keto esters over finely dispersed **polymer-stabilized** platinum clusters modified with cinchonidine)
IT 600-22-6, Methyl pyruvate 617-35-6, Ethyl pyruvate
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. **hydrogenation** of α-keto esters over finely dispersed polymer-stabilized platinum clusters modified with cinchonidine)
IT 7699-00-5P, R-Ethyl lactate 17392-83-5P, R-(+)-Methyl lactate
RL: SPN (Synthetic preparation); PREP (Preparation)
(asym. **hydrogenation** of α-keto esters over finely dispersed polymer-stabilized platinum clusters modified with cinchonidine)
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L158 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:32473 HCAPLUS
DOCUMENT NUMBER: 126:95309
TITLE: Preparation and characterization of polymer-stabilized **rhodium** particles
AUTHOR(S): Busser, G. W.; van Ommen, J. G.; Lercher, J. A.
CORPORATE SOURCE: Faculty Chemical Technology, University Twente, AE Enschede, 7500, Neth.
SOURCE: Advanced Catalysts and Nanostructured Materials (**1996**), 213-230. Editor(s): Moser, William R. Academic: San Diego, Calif.
CODEN: 63URAA
DOCUMENT TYPE: Conference
LANGUAGE: English
IT **7440-16-6**, Rhodium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-stabilized** rhodium particles)
RN 7440-16-6 HCAPLUS
CN Rhodium (8CI, 9CI) (CA INDEX NAME)

Rh

AB Methods for the preparation of small polyvinyl-2-pyrrolidone stabilized metal particles well defined in size and size distribution have been developed. The metal particle size is governed by the interaction of the polymer with the catalyst precursor and the **reduction** rate. in various **reducing** agents. Stronger interaction of the metal salt precursor with the polymer and higher **reduction** rates result in smaller particle sizes on the final catalyst. The relationship between the average particle size and the catalytic properties for cyclohexene hydrogenation is discussed.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 22, 24, 38
IT Nanoparticles

Particle size distribution
Reduction
(preparation and characterization of polymer-stabilized rhodium particles)
IT **7440-16-6**, Rhodium, uses 9003-39-8
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and characterization of **polymer-stabilized** rhodium particles)

L158 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:608745 HCAPLUS
DOCUMENT NUMBER: 125:287216
TITLE: Preparation of a new catalytic polymer-coated electrode using highly palladium metal-incorporated poly[N-(6-aminohexyl)pyrrole]
AUTHOR(S): Takano, Nobuhiro; Abe, Kunihiko; Takeno, Noboru
CORPORATE SOURCE: Dep. Applied Chem., Muroran Inst. Technol., Muroran, 050, Japan
SOURCE: Denki Kagaku oyobi Kogyo Butsuri Kagaku (**1996**), 64(10), 1118-1120
CODEN: DKOKAZ; ISSN: 0366-9297
PUBLISHER: Denki Kagaku Kyokai
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and electropolymn. of aminohexylpyrrole for new catalytic **polymer-coated** palladium-incorporated electrode)
RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

AB The preparation is reported of a conductive polymer, i.e. poly-[N-(6-aminohexyl)pyrrole] (I), film electrode which incorporates Pd metal for electrocatalytic **hydrogenation.** The monomer [N-(6-aminohexyl)pyrrole] (II) was synthesized by the Pd-catalyzed cyclization of 2-butene-1,4-diol with 1,6-hexamethylenediamine. The film of I was then formed by electropolymn. of II on a glassy C electrode, followed by electrolytic incorporation of the metal and evaluation of the resulting film.
CC 72-2 (Electrochemistry)
Section cross-reference(s): 67
ST catalytic polymer coated **glassy** carbon electrode; **hydrogenation** catalyst polyaminohexylpyrrole palladium polymer electrode
IT **Hydrogenation** catalysts
(electrochem., preparation and electropolymn. of aminohexylpyrrole for new catalytic polymer-coated palladium-incorporated electrode for **hydrogenation**)
IT **7440-05-3**, Palladium, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(preparation and electropolymn. of aminohexylpyrrole for new catalytic **polymer-coated** palladium-incorporated electrode)

L158 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:198406 HCAPLUS
DOCUMENT NUMBER: 124:316160
TITLE: Polymer-protected platinum catalysts in the nanometer

size range
AUTHOR(S): Mayer, Andrea B. R.; Mark, James E.
CORPORATE SOURCE: Dep. Chem. Polymer Res. Cent., Univ. Cincinnati, Cincinnati, OH, 45221-0172, USA
SOURCE: ACS Symposium Series (**1996**), 622(Nanotechnology), 137-50
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation and use of **polymer-protected** platinum colloids)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB A review with 8 refs. Stable platinum colloids were prepared by **reducing** dihydrogen hexachloroplatinate H2PtCl6 in the presence of protective polymers. In this chapter, we report the results for several nonionic polymers and cationic polyelectrolytes and their ability to stabilize such platinum colloids. The sizes of the platinum particles were investigated by transmission electron microscopy (TEM) and found to be in the nanometer size range. The catalytic activity of these systems was tested by the **hydrogenation** of cyclohexene, cis-cyclooctene, and 1-hexene. A variety of polymer-protected platinum nanoparticles showed catalytic activity, and conversions of 100% were obtained in most cases.
CC 21-0 (General Organic Chemistry)
Section cross-reference(s): 67
ST polymer protected platinum catalyst **review**; **hydrogenation** catalyst platinum colloid **review**
IT **Hydrogenation** catalysts
(polymer-protected platinum colloids)
IT **7440-06-4**, Platinum, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation and use of **polymer-protected** platinum colloids)

L158 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:988691 HCAPLUS
DOCUMENT NUMBER: 124:157118
TITLE: Catalysts derived from polymer-stabilized colloidal platinum: Effects of support and calcination on the catalytic behavior in **hydrogenation**
AUTHOR(S): Duff, D. G.; Mallat, T.; Schneider, M.; Baiker, A.
CORPORATE SOURCE: Department of Chemical Engineering and Industrial Chemistry, Swiss Federal Institute of Technology, ETH-Zentrum, Zurich, CH-8092, Switz.
SOURCE: Applied Catalysis, A: General (**1995**), 133(1), 133-48
CODEN: ACAGE4; ISSN: 0926-860X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **7440-06-4**, Platinum, uses

RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(catalysts derived from **polymer-stabilized** colloidal platinum and effects of support and calcination on catalytic behavior in **hydrogenation**)
RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

AB Platinum colloids prepared by **reduction** of H2PtCl6 with methanol in the presence of polyvinylpyrrolidone have been examined in the sol state and following immobilization on oxide supports. Both the sol and the supported catalysts contained platinum metal particles of 3-4 nm number-mean diameter, as determined by TEM. High initial activities for **hydrogenation** of the medium-sized alkenes trans-stilbene and methylcinnamate were recorded. The platinum particles were compared for particle size distribution and catalytic activity in the unsupported (sol) state and in supported states, both before and after heat treatment in oxygen-argon at 300°C (calcination). Highest activities were measured for the sol state and for the calcined supported catalysts. It is suggested that this behavior is related to the influence of support and polymer on the accessibility of the metal surface for the reactants. Marked activity differences between a platinum-colloid catalyst immobilized on a titania aerogel and a binary Pt-titania aerogel, directly prepared by a one-step sol-gel route with ensuing supercrit. drying, are discussed.
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 38, 66
ST platinum polyvinylpyrrolidone catalyst **hydrogenation** stilbene; **methylcinnamate hydrogenation** platinum polyvinylpyrrolidone catalyst; support platinum catalyst **hydrogenation**; calcination platinum catalyst **hydrogenation**
IT Calcination
Hydrogenation catalysts
(catalysts derived from polymer-stabilized colloidal platinum and effects of support and calcination on catalytic behavior in **hydrogenation**)
IT Particle size
(catalysts derived from polymer-stabilized colloidal platinum and effects of support and calcination on catalytic behavior in **hydrogenation** in relation to)
IT **7440-06-4**, Platinum, uses 9003-39-8, Polyvinylpyrrolidone
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(catalysts derived from **polymer-stabilized** colloidal platinum and effects of support and calcination on catalytic behavior in **hydrogenation**)
IT 103-26-4, Methylcinnamate 103-30-0, trans-Stilbene
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalysts derived from polymer-stabilized colloidal platinum and effects of support and calcination on catalytic behavior in **hydrogenation**)

=> d iall abeq tech abex l106
YOU HAVE REQUESTED DATA FROM FILE 'WPIX' - CONTINUE? (Y)/N:y

L106 ANSWER 1 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2001-017254 [03] WPIX
DOC. NO. CPI: C2001-004958
TITLE: Reactive membrane used for the hydrogenation of unsaturated compounds, e.g. cyclohexene to cyclohexane, comprises a catalyst-loaded support with a pore structure of crosslinked nano-particles of organic polymer.
DERWENT CLASS: A18 A97 E19 J04
INVENTOR(S): BEYER, A; MAEHR, U; REICHERT, K H; SCHOMAECKER, R
PATENT ASSIGNEE(S): (REIC-I) REICHERT K; (SCHO-I) SCHOMAECKER R
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19918486	A1	20001026	(200103)*		5	B01J031-06<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19918486	A1	DE 1999-1018486	19990423

PRIORITY APPLN. INFO: DE 1999-19918486 19990423
INT. PATENT CLASSIF.:
MAIN: **B01J031-06**
SECONDARY: C07B035-02; C07C005-03
BASIC ABSTRACT:
DE 19918486 A UPAB: 20010116
NOVELTY - Reactive membrane containing a catalyst-loaded support with a pore structure formed of crosslinked nano-particles of an organic polymer (A).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for the production of reactive membranes by:
(a) precipitation polymerization of a dispersion of a functional group-containing vinyl monomer in a solvent in presence of a stabilizer to give a dispersion of nano-particles with a low polydispersity,
(b) addition of a polyfunctional crosslinker (B) and possibly a catalyst-containing solution,
(c) heating at the crosslinking temperature in a closed mould to form a gel,
(d) demolding the gel carrier with the gel on it and adding a catalyst-containing solution (if not added in stage b), and
(e) removing solvent to give a porous, catalyst-containing membrane.
USE - For the hydrogenation of unsaturated compounds with elemental hydrogen, by passing the gaseous compound, especially cyclohexene, with hydrogen through the membrane at temperatures up to 65 deg. C (claimed). Also suitable for the selective partial hydrogenation of polyunsaturated compounds, e.g. benzene to cyclohexene.
ADVANTAGE - Reactive membranes made by a single method but with a pore structure (and therefore material transport properties) which can be varied over a wide range, enabling a wide range of applications. These membranes show a high catalytic activity, e.g. enabling 99% conversion of cyclohexene to cyclohexane at room temperature with a hydrogen flow rate of 100 ml/minute.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A04-F04; A12-W11K; E10-J02A1; J04-E04B; **N02-F02**

TECH UPTX: 20010116

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Catalyst: Finely-divided precious metals, preferably palladium.

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: Polymer (A) is a vinyl polymer with functional groups, especially carboxyl groups, which are crosslinked in the nano-particles by addition or condensation reactions with crosslinkers (B). Preferred nano-particles contain poly(meth)acrylic acid, crosslinked with diepoxides, especially aliphatic alpha.omega-diepoxides. The nano-particles have an average particle size of 20-300 nm and contain a stabilizer, preferably a block copolymer with vinyl groups and oxyalkylene groups. The gel carrier consists of filter paper.

Preferred Composition: The membrane contains nano-particles and 15-60 mol% crosslinker (B) (based on vinyl monomer + B), and the pores show an average radius of 200-1000 nm, decreasing with increasing amounts of (B). The catalyst content is 2-5 wt% based on **polymer** plus **stabilizer** in the nano-particles.

Preferred Process: The starting dispersion with a vinyl monomer content of 25-100 g/l and a monomer:stabilizer wt. ratio of (3:1)-(100:1) is radically polymerized to nano-particles (20-300 nm). A co-stabilizer (preferably water and/or alkanediol) may also be added in a wt. ratio of (co-stabilizer):(vinyl monomer) = (1:50)-(1:1). The high-boiling solvent in the gel on the carrier is replaced by a solvent with a melting point above -10 degreesC and a boiling point below +110 degreesC, preferably cyclohexane, which is then removed by freeze-drying the gel. Precious metal compounds added to the dispersion are reduced to the metal during crosslinking; compounds added to the gel are reduced to metal by passing hydrogen through the membrane. The amount of metal compound added is that required to give a reduced metal content of 2-5 wt% in the membrane.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Solvents: Aliphatic-aromatic hydrocarbons or benzene, preferably trimethylbenzene.

ABEX UPTX: 20010116

EXAMPLE - A mixture of 438 g 1,2,4-trimethylbenzene, (TMB) 8.5 g Tensid SE 3010 (RTM: stabilizer) and 50 g acrylic acid was heated to 50 degreesC and polymerized by the addition of a solution of 0.15 g 2,2-azobis-(2,4-dimethylvaleronitrile) in 3 ml TMB, to give a dispersion of nano-particles with an average particle size of 115 nm and a polydispersity of 16%. A mixture of 10 ml polymer dispersion and 1.37 g Araldite DYH/BD (RTM: 1,6-hexanediol diglycidyl ether) was filled into a circular mould containing a 70-mm round filter paper as gel carrier, then the mould was closed and heated for 24 hours at 90 degreesC. The carrier with the resulting crosslinked gel (total thickness = 3 mm) was freed from TMB by immersion in 80 ml THF for 12 hours, after which the cloudy membrane obtained was immersed for 12 hours in a solution of 115 mg palladium acetate in 30 ml THF. This gave an orange membrane (Pd content 5 wt%) which was washed for 3 x 4 hours in cyclohexane (3 x 80 ml) to remove the THF and then freeze dried at -25 degreesC and 0.070 bar. The membrane obtained showed an average pore radius of 420 nm and a hydrogen permeability of 2 x 10 power-14 m2 (sic). The Pd acetate was reduced to Pd by passing hydrogen through the membrane for 12 hours at 65 degreesC. Hydrogenation tests with the reduced membrane (12 hours with hydrogen and cyclohexene at 100 ml/min) gave a product containing 99 vol% cyclohexane and 1 vol% cyclohexene.

=> d iall abeq tech abex l106 2-
YOU HAVE REQUESTED DATA FROM FILE 'WPIX' - CONTINUE? (Y)/N:y

YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y

L106 ANSWER 2 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-611513 [58] WPIX
DOC. NO. CPI: C2000-182977
TITLE: Avoiding catalyst deactivation in industrial conversion of carbohydrates, alcohols, aldehydes or polyhydroxy compounds in the aqueous phase by using a metal catalyst formed of **polymer-stab**: nanoparticles.
DERWENT CLASS: D17 E13 E17
INVENTOR(S): CAPAN, E; HAEHNLEIN, M ;E, U; VORLOP, K; BEGLI, A H; Applicants]
PATENT ASSIGNEE(S): (SUED-N) SUEDZUCKER AG]ED-N) SUEDZUCKER AG
COUNTRY COUNT: 23
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2000055165	A1	20000921	(200058)*	GE	45	C07H015-00
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE						
W: AU CA IL US						
DE 19911504	A1	20001019	(200060)			C07B033-00
AU 2000043953	A	20001004	(200101)			C07H015-00
EP 1165580	A1	20020102	(200209)	GE		C07H015-00
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
AU 747812	B	20020523	(200245)			C07H015-00
EP 1165580	B1	20030702	(200345)	GE		C07H015-00
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
US 2003139594	A1	20030724	(200352)			C07H005-04
DE 50002730	G	20030807	(200359)			C07H015-00
US 2004002597	A1	20040101	(200402)			C07H005-06
ES 2202115	T3	20040401	(200425)			C07H015-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000055165	A1	WO 2000-EP2351	20000316
DE 19911504	A1	DE 1999-1011504	19990316
AU 2000043953	A	AU 2000-43953	20000316
EP 1165580	A1	EP 2000-925117	20000316
		WO 2000-EP2351	20000316
AU 747812	B	AU 2000-43953	20000316
EP 1165580	B1	EP 2000-925117	20000316
		WO 2000-EP2351	20000316
US 2003139594	A1 Div ex	US 2001-936891	20011019
		US 2003-340913	20030110
DE 50002730	G	DE 2000-00002730	20000316
		EP 2000-925117	20000316
		WO 2000-EP2351	20000316
US 2004002597	A1 Div ex	US 2001-936891	20011019
		US 2003-340901	20030110
ES 2202115	T3	EP 2000-925117	20000316

FILING DETAILS:

PATENT NO	KIND	PATENT NO

AU 2000043953	A	Based on	WO 2000055165
EP 1165580	A1	Based on	WO 2000055165
AU 747812	B	Previous Publ.	AU 2000043953
		Based on	WO 2000055165
EP 1165580	B1	Based on	WO 2000055165
DE 50002730	G	Based on	EP 1165580
		Based on	WO 2000055165
ES 2202115	T3	Based on	EP 1165580

PRIORITY APPLN. INFO: DE 1999-19911504 19990316
INT. PATENT CLASSIF.:
MAIN: C07B033-00; C07H005-04; C07H005-06; C07H015-00
SECONDARY: **B01J031-06**; C07B041-00; C07C002-00; C07C029-14; C07C029-141; C07C051-23; C07C051-235; C07C059-10; C07C059-185; C07C059-245; C07D307-62; C07H001-00

BASIC ABSTRACT:
WO 200055165 A UPAB: 20001114
NOVELTY - Industrial conversion of carbohydrates, alcohols, aldehydes or polyhydroxy compounds in the aqueous phase is effected using a metal catalyst formed from **polymer-stabilized** nanoparticles.

USE - No uses are given for the products of the wide range of oxidation, hydrogenation or reductive aminations that can be effected, except for the 2-keto-L-gulonic acid obtained by oxidation of sorbose which serves as an intermediate for the production of ascorbic acid (Vitamin C).

ADVANTAGE - The catalyst deactivation associated with prior-art industrial processes is avoided as long as the stabilizing interaction between the polymer and the nanoparticles is maintained; this is achieved despite the use of a variety of different combinations of supports, polymers and metals. There is no need to use a promoter with noble metal catalysts and, further, the catalysts are effective in terms of high reaction rate and high selectivity even with conversions of large molecules such as di- or oligo-saccharides.

Dwg.0/7

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: D06-G; E07-A02; E10-A07; **N02**; N05-D; N05-E

TECH UPTX: 20001114
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The conversion is (i) an oxidation, especially of glucose, fructose, sorbose, saccharose and/or isomaltulose; (ii) a hydrogenation, especially a reducing sugar such as glucose, fructose, xylose, sorbose, isomaltose, isomaltulose, trehalose, maltose and/or lactose; and/or (iii) a reductive amination, especially of the reducing sugars listed in (ii) above. The catalyst is added continuously or at appropriate intervals to the aqueous phase and oxidation products are continuously removed by electrodialysis (e.g. as per EP651734) from the reaction system and then recovered.
Preferred Catalyst : The metal can be a noble metal such as Pt, Pd, Rh and/or Ru or a non-noble metal such as Cu and/or Ni. The catalyst can consist of one or two metals and can contain a promoter metal. It can be in a membrane arrangement or can be immobilized on a carrier, especially in a gel.

TECHNOLOGY FOCUS - POLYMERS - Preferred Polymer: A wide range of homo- and co-polymers can be used to encapsulate the nanoparticles, among those disclosed being polyvinylpyrrolidones, PVA, poly-(2-Et-2-oxazoline), polymethacrylic acid, poly-(styrenesulfonic acid), poly-(vinyl phosphonic acid) and polydiallyldimethylammonium chloride.

ABEX UPTX: 20001114
EXAMPLE - An Al2O3-supported catalyst which could be used in 10 sorbose

oxidation runs, each of 24 hours duration, without any substantial deactivation (i.e. retaining more than 80 % of its activity, as opposed to a reduction to below 20-30 % of its original activity in the case of using a conventional Al2O3-supported Pt catalyst) was obtained by:
(i) adding H2PtCl6.6H2O (398.2 mg) and NaOH (291.6 mg) to solution of completely-dissolved polyvinylpyrrolidone (3.27 g) in MeOH (33 ml) and refluxing so that the mixture turns yellow;
(ii) after a further 60 minutes reflux, cooling the brown-black sol thus obtained, removing unreacted alcohol dialytically and pumping the colloidal sol countercurrent to deionized water in a hollow fibre dialysis module; and
(iii) adding the Pt-containing colloidal solution (50 mg) to Al2O2 highly porous particles (4.69 g), followed by adding formic acid (1.15 ml), stirring overnight, filtering and then washing with first MeOH and then distilled water prior to drying. Each 24 hour oxidation run was effected using degassed and activated catalyst suspension (150 ml) and sorbose (7.5 g) added under N2, with the reaction mixture heated to 50 degreesC, adjusted to pH 7.3 and saturated (ca. 95 %) with O2.

L106 ANSWER 3 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1998-596703 [51] WPIX
DOC. NO. CPI: C1998-179181
TITLE: Palladium containing nano-particle sol optionally containing Group-Ib and Group-VIIIb metals - is stabilised by betaine group containing **polymeric protective colloid** and is useful as a catalyst for the production of vinyl acetate.
DERWENT CLASS: A13 A14 A41 E17
INVENTOR(S): DINGERDISSEN, U; HAGEMEYER, A; KUEHLEIN, K; MANZ, A; MILLAUER, H
PATENT ASSIGNEE(S): (FARH) HOECHST RES & TECHNOLOGY DEUT GMBH & CO; (FARH) HOECHST AG; (CELA) CELANESE CHEM EURO GMBH; (CELA) CELANESE GMBH
COUNTRY COUNT: 28
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 879642	A2	19981125	(199851)*	GE	13	B01J023-44
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI						
DE 19721601	A1	19981126	(199902)			B01J023-44
JP 10328571	A	19981215	(199909)		12	B01J031-28
CA 2238253	A	19981123	(199919)			B22F009-24
US 6074979	A	20000613	(200035)			B01J031-00
EP 879642	B1	20010822	(200149)	GE		B01J023-44
R: DE ES FR GB						
DE 59801238	G	20010927	(200156)			B01J023-44
ES 2162690	T3	20020101	(200221)			B01J023-44

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 879642	A2	EP 1998-108576	19980512
DE 19721601	A1	DE 1997-1021601	19970523
JP 10328571	A	JP 1998-142885	19980525
CA 2238253	A	CA 1998-2238253	19980522
US 6074979	A	US 1998-83008	19980521
EP 879642	B1	EP 1998-108576	19980512

DE 59801238	G	DE 1998-501238	19980512
		EP 1998-108576	19980512
ES 2162690	T3	EP 1998-108576	19980512

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 59801238	G	Based on	EP 879642
ES 2162690	T3	Based on	EP 879642

PRIORITY APPLN. INFO: DE 1997-19721601 19970523
INT. PATENT CLASSIF.:
MAIN: B01J023-44; B01J031-00; B01J031-28; B22F009-24
SECONDARY: B01J013-00; B01J013-02; B01J023-40; B01J023-52; B01J023-58; **B01J031-06**; B01J037-16; C07B061-00; C07C067-05; C07C069-15; C07C229-00

BASIC ABSTRACT:

EP 879642 A UPAB: 19981223

Soluble nanoparticles (I) that contain palladium optionally with Group Ib and VIIIb metals are embedded in a protective colloid that contains a polymer having betaine groups.

Also claimed are: (i) a process for the production of (I) by reaction of a palladium compound, optionally with Group Ib and VIIIb metal compounds with a reducing agent in water or a solvent whereby the reduction is carried out in the presence of a protective colloid that contains a polymer, the side chains of which contain betaine groups or the protective colloid is converted to the resulting sol after the reduction step; (ii) the resulting sol whereby the electrolyte contains chloride, bromide or iodide; and (iii) a catalyst for the production of vinyl acetate whereby a sol of the nanoparticles (I) is applied to a catalyst support by dipping, spraying, immersion, impregnation, spray drying or spin coating.

USE - The nanoparticles (I) are useful as a catalyst for the production of vinyl acetate.

ADVANTAGE - The nanoparticles (I) have improved stability.

Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A01-D10; A12-W11K; E10-G02D; N01-A; **N02-F**

L106 ANSWER 4 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1989-300371 [41] WPIX
TITLE: Transition metal organo sols stabilised by organo metallic polymers - prepared by condensing transition metal vapour into solution of poly isobutyl aluminoxane in an organic liquid.
DERWENT CLASS: A97 J04 M25
INVENTOR(S): BRADLEY, J S; HILL, E W
PATENT ASSIGNEE(S): (ESSO) EXXON RES & ENG CO
COUNTRY COUNT: 9
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 4857492	A	19890815	(198941)*		5	
EP 336629	A	19891011	(198941)	EN		
R: DE GB NL						
AU 8931677	A	19890928	(198947)			
NO 8901059	A	19891023	(198948)			

JP 01299638	A	19891204	(199003)		
EP 336629	B1	19920603	(199223)	EN	6 B01J031-06<--
R: DE GB NL					
DE 68901674	E	19920709	(199229)		B01J031-06<--
NO 173640	B	19931004	(199345)		B01J000-00
CA 1334453	C	19950214	(199514)		B01J013-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4857492	A	US 1988-174135	19880328
EP 336629	A	EP 1989-303062	19890328
JP 01299638	A	JP 1989-76358	19890328
EP 336629	B1	EP 1989-303062	19890328
DE 68901674	E	DE 1989-601674	19890328
		EP 1989-303062	19890328
NO 173640	B	NO 1989-1059	19890313
CA 1334453	C	CA 1989-593098	19890308

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 68901674	E	Based on	EP 336629
NO 173640	B	Previous Publ.	NO 8901059

PRIORITY APPLN. INFO: US 1988-174135 19880328
REFERENCE PATENTS: EP 54832; FR 219911; US 4252678; US 4292253; US 4332698; EP 219911
INT. PATENT CLASSIF.:
MAIN: **B01J031-06**
SECONDARY: B01F017-52; B01J013-00; B01J031-12; B01J035-12; C01G007-00; C08G079-00; C08J003-08; C08L085-00

BASIC ABSTRACT:

US 4857492 A UPAB: 19930923

Preparation of a **polymer** stabilised **colloidal** metal (M) solution wherein said metal, M' is a transition metal and said polymer is an organometallic polymer having the monomer unit of formula Rx'O, where R is alkyl, cycloalkyl, or alkoxy, M' is any metal satisfying the formula and x is 2 less than the valence of M' and wherein said polymer is soluble in an inert liquid, interacts with said colloidal parts of M in said liquid, and able to react with H2O to produce the oxide of M', M'2Oz or its hydrate M'2Oz-nH2O, where Z is the valence of M' and n is the number of mols. of H2O.

1)Transition metal is opt. Pd, Pt, Cu, Ni, Co or Cr, 2) is Al, 3) R is isobutyl, 4) liquid is an organic liquid

USES - Prepared solution includes small metal clusters which may be used directly as a catalyst or to produce discrete metal clusters in a solid matrix which is also used as a catalyst.

0/1

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB
MANUAL CODES: CPI: A06-D; A12-W11K; J04-E04; M25-J; N01-C; **N02-B01**; **N02-C01**; **N02-D01** ; **N02-F02**; N03-D

ABEQ DE 68901674 E UPAB: 19930923

Prepn. of a **polymer** stabilised **colloidal** metal (M) soln. wherein said metal, M' is a transition metal and said polymer is an organometallic polymer having the monomer unit of formula Rx'O, where R is alkyl, cycloalkyl, or alkoxy, M' is any metal satisfying the formula and x

is 2 less than the valence of M' and wherein said polymer is sol. in an inert liq., interacts with said colloidal parts of M in said liq., and able to react with H2O to produce the oxide of M', M'2Oz or its hydrate M'2Oz-nH2O, where Z is the valence of M' and n is the no. of mols. of H2O.

1)Transition metal is opt. Pd, Pt, Cu, Ni, Co or Cr, 2) is Al, 3) R is isobutyl, 4) liq. is an organic liq.

USES - Prepd. soln. includes small metal clusters which may be used directly as a catalyst or to produce discrete metal clusters in a solid matrix which is also used as a catalyst.

ABEQ EP 336629 B UPAB: 19930923

A **polymer**-stabilised **colloidal** metal (M) solution wherein the metal M is a transition metal and the polymer is a metal-contg. organic polymer having the repeat unit (RxM'O) where R is an alkyl, cycloalkyl or alkoxy group, M' is a metal satisfying the formula, and x is 2 less than the valence of M', the polymer being a substance that is soluble in an inert liquid, and interacts with the colloidal particles of M so as to solubilise the particles of M is the liquid.

L106 ANSWER 5 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1988-221628 [32] WPIX
DOC. NO. CPI: C1988-098878
TITLE: Carbonylation of methanol to acetic acid in presence of rhodium and iodide improved by using rhodium supported on pyridine-containing polymer.
DERWENT CLASS: A14 A97 E17
INVENTOR(S): GOE, G L; MARSTON, C R
PATENT ASSIGNEE(S): (REIL) REILLY TAR & CHEM CORP; (REIL) REILLY IND INC
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 277824	A	19880810	(198832)*	EN	10	
R: BE CH DE FR GB IT LI NL						
BR 8800468	A	19880920	(198842)			
JP 63253047	A	19881020	(198848)			
IL 85320	A	19920818	(199244)			C07C051-12
US 5155261	A	19921013	(199244)		7	C07C045-50
CA 1322193	C	19930914	(199343)			B01J031-18
EP 277824	B1	19940427	(199417)	EN	14	C07C051-12
R: BE CH DE FR GB IT LI NL						
DE 3889233	G	19940601	(199423)			C07C051-12
JP 07002671	B2	19950118	(199507)		9	C07C053-08
KR 9513076	B1	19951024	(199901)			C07C053-08

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 277824	A		EP 1988-300904	19880203
JP 63253047	A		JP 1988-25538	19880205
IL 85320	A		IL 1988-85320	19880205
US 5155261	A	Cont of	US 1987-11286	19870205
		Cont of	US 1988-265321	19881027
		Cont of	US 1989-384072	19890721
		Cont of	US 1990-501356	19900328
		Cont of	US 1990-616699	19901120
			US 1991-787767	19911106
CA 1322193	C		CA 1988-558180	19880204
EP 277824	B1		EP 1988-300904	19880203

DE 3889233	G	DE 1988-3889233	19880203
		EP 1988-300904	19880203
JP 07002671	B2	JP 1988-25538	19880205
KR 9513076	B1	KR 1988-1052	19880205

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 3889233	G	Based on	EP 277824
JP 07002671	B2	Based on	JP 63253047

PRIORITY APPLN. INFO: US 1987-11286 19870205
REFERENCE PATENTS: A3...8951; No-SR.Pub; SU 1108088; US 3769329; US 4328125; 2.Jnl.Ref
INT. PATENT CLASSIF.:
MAIN: B01J031-18; C07C045-50; C07C051-12; C07C053-08
SECONDARY: B01J023-46
ADDITIONAL: **B01J031-06**; C07B061-00; C08F026-06
BASIC ABSTRACT:
EP 277824 A UPAB: 19930923
A process for carbonylation of methanol to acetic acid at 65-80 bar carbon monoxide pressure, 170-200 deg.C, in the presence of a rhodium species and an iodide promoter (the Monsanto process) is improved by conducting the reaction in the presence of an insol. polymer catalyst having pendant free base, N-oxide and/or quaternised pyridine gps., supporting the rhodium loaded to less than 10 weight% (expressed as metal) of the polymer component.

(I) is porous cross-linked 4- or 2-vinyl pyridine copolymer in the free base or N-oxide form that has been quaternised with an alkyl halide, e.g. methyl iodide and loaded 2 weight% by reaction with a rhodium salt, e.g. rhodium chloride trihydrate; it may simply be formed by adding the polymer to the Monsanto reaction medium which contains methyl iodide and rhodium salt. The polymer may be cross-linked with divinyl benzene.

ADVANTAGE - The improvement provides at least four-fold increase in reaction rate over the Monsanto process using a homogeneous catalyst or prior described heterogeneous catalysts. The **polymer** is **stable**, the catalyst readily formed and regenerated in situ, and recycled without loss of activity.

0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A10-E; A10-E19; A12-W11K; E10-A03; E10-C04J; **N02-E**; N05-D
ABEQ US 5155261 A UPAB: 19930923
The commercial process for preparing acetic acid, comprises reacting methanol with C0 under pressures of 65-80 Bar and at 170-200 deg.C. in the presence of an iodide promoter and a catalyst comprising an insol. polymer (I) having pendant free base, N-oxide or quaternised pyridine gps. supporting a Rh species (II) loaded to under 10 wt. % (expressed as metal) of the polymer component.

Pref. (I) is a copolymer derived from a vinylpyridine, pref. 2- or 4-vinylpyridine, and most pref. (I) is poly(4-vinylpyridine) crosslinked with 25% divinylbenzene contg. 50 wt.% or more of pendant pyridine gps.. Pref (II) is rhodium chloride trihydrate.

USE - Acetic acid is produced from methanol using the catalyst.

0/0
ABEQ EP 277824 B UPAB: 19940613
A process for preparing acetic acid, comprising the step of reacting methanol with carbon monoxide under a pressure of 65-80 Bar and temperature of 170-200 deg.C in the presence of an iodide promoter and a

catalyst comprising an insoluble polymer having pendant free base, N-oxide or quaternised pyridine groups supporting a rhodium species loaded to less than about 10 weight percent (expressed as metal) of the polymer component, the insoluble **polymer** being **stable** at a temperature of at least 170 deg.C and at a pressure of at least 65 Bars. Dwg.0/0

L106 ANSWER 6 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1983-731186 [32] WPIX
DOC. NO. CPI: C1983-075032
TITLE: Honeycomb-type catalyst production for removing carbon mon oxide etc. - from exhausts involves coating carrier with water-soluble polymer and immersing in suspension of metal cpd.-activated metal oxide composite.
DERWENT CLASS: A81 E19 E36 H06 J01
PATENT ASSIGNEE(S): (JAPC) NIPPON SHOKUBAI KAGAKU KOGYO CO LTD
COUNTRY COUNT: 3
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 58109140	A	19830629	(198332)*		8	
US 4483940	A	19841120	(198449)			
CA 1194850	A	19851008	(198545)			
JP 62001543	B	19870114	(198705)			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 58109140	A	JP 1981-206245	19811222
US 4483940	A	US 1982-451475	19821220

PRIORITY APPLN. INFO: JP 1981-186943 19811124; JP 1981-206245 19811222
INT. PATENT CLASSIF.: **B01J031-06**; B01J035-04; B01J037-02
BASIC ABSTRACT:
JP 58109140 A UPAB: 19930925
The catalyst is obtd. by immersing a honeycomb type carrier in an aqueous solution of a water-soluble organic polymer depositing a catalytic component consisting of noble metal cpd. and/or base metal cpd. on a refractory type activated metal oxide powder to obtain a catalyst composite, dispersing the catalyst composite in water to obtain an aqueous suspension immersing the **polymer-coated** honeycomb carrier in the suspension, and drying the prod.

The organic polymer is (m)ethyl cellulose, PVA or polyacrylic acid. The noble metal is Pt, Pd, Rh, Ru, or Ir. The base metal is Fe, Co, Ni, Mn, Cr, Mo or Zn. The refractory metal oxide is alumina, silica, magnesia, titania, or zirconia.

The catalyst is used for removing Co, hydrocarbons, and nitrogen oxide(s) from car exhausts.
0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB
MANUAL CODES: CPI: A12-T04; A12-W11B; E10-J02D; E31-H01; E31-N04; H06-C03; J01-E02D; J04-E04; **N02**; N03; N06-E
ABEQ US 4483940 A UPAB: 19930925
Prodn. of honeycomb catalyst carrier comprises application of a coating of

water-soluble (co)polymer to the surface of a ceramic, monolithic honeycomb carrier and then deposition of the catalyst component on and within the carrier. Pref. polymers are polyvinyl alcohol, polyacrylic acid or its salts, and maleic acid copolymers or their salts.

Pref. an active refractory metal oxide is also applied in the form of a water-soluble salt which is added to the catalyst soln., and which yields the corresp. metal oxide (e.g. alumina) on heating. Pref. catalysts are noble metal catalysts.

ADVANTAGE - The prods. have improved mechanical strength and resistance to thermal shock.

L106 ANSWER 7 OF 7 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1982-04416E [03] WPIX
TITLE: Photolytic conversion of water into hydrogen - is mediated by catalytic dispersion of fine noble metal particles admixed with alkylene glycol **polymers** as **protective** agents.
DERWENT CLASS: A97 E36 J04
INVENTOR(S): BRUGGER, P A; CUENDET, P; GRATZEL, M
PATENT ASSIGNEE(S): (ENGH) ENGELHARD MINERALS CORP
COUNTRY COUNT: 13
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
GB 2079170	A	19820120	(198203)*		9	
FR 2486511	A	19820115	(198208)			
SE 8104232	A	19820208	(198208)			
NL 8103048	A	19820201	(198209)			
BR 8104306	A	19820323	(198214)			
DE 3126797	A	19820415	(198216)			
JP 57048345	A	19820319	(198217)			
US 4367131	A	19830104	(198304)			
ZA 8103758	A	19821206	(198308)			
CA 1151139	A	19830802	(198334)			
IL 62998	A	19840531	(198429)			
GB 2079170	B	19850103	(198501)			
CH 647690	A	19850215	(198512)			
IT 1171369	B	19870610	(199004)			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
GB 2079170	A	GB 1980-22339	19800708

PRIORITY APPLN. INFO: GB 1980-22339 19800708
INT. PATENT CLASSIF.: B01J019-08; B01J019-12; B01J023-38; **B01J031-06**; B01J033-00; B01J035-12; B01J037-00; C01B001-03; C01B003-06; C25B001-02; C25B011-06

BASIC ABSTRACT:
GB 2079170 A UPAB: 19930915
A catalyst (I) capable of forming a stable dispersion in an aqueous medium for mediating the evolution of hydrogen by photolysis comprises an intimate admixture of at least one Noble metals (II) in finely divided form and a water permeable protective agent (III) adsorptive to the metal. (III) is at least one alkylene glycol polymers having units -O-(CH2)(n)-O- where n is at least 1 and in which at least a portion of polymer is composed of monomer units having an equal to or greater than 3.

The particle size of (I) is pref. less than 50 Angstrom unit in dia. The metal (II) Pt, Pd, Rh, Ru, Ir, Os, Ag or Au. The (III) has a mol. weight 200-200,000 and is especially a copolymer of ethylene glycol and propylene glycol or Carbowax 20-M (RTM). Preferred combination of (II) and (III) is Pt and Carbowax 20-M (RTM).

The stabilised catalysts in finely dispersed form significantly improve the yields of hydrogen gas.

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB
MANUAL CODES: CPI: A05-H01; A12-W11B; E31-A; J04-E04; **N02-E**; **N02-F02**

ABEQ GB 2079170 B UPAB: 19930915

A catalyst (I) capable of forming a stable dispersion in an aq. medium for mediating the evolution of hydrogen by photolysis comprises an intimate admixture of at least one Noble metals (II) in finely divided form and a water permeable protective agent (III) adsorptive to the metal. (III) is at least one alkylene glycol polymers having units -O-(CH2)(n)-O- where n is at least 1 and in which at least a portion of polymer is composed of monomer units having an equal to or greater than 3.

The particle size of (I) is pref. less than 50 Angstrom unit in dia. The metal (II) Pt, Pd, Rh, Ru, Ir, Os, Ag or Au. The (III) has a mol. wt. 200-200,000 and is esp. a copolymer of ethylene glycol and propylene glycol or Carbowax 20-M (RTM). Preferred combination of (II) and (III) is Pt and Carbowax 20-M (RTM).

The stabilised catalysts in finely dispersed form significantly improve the yields of hydrogen gas.

=> => d l160 ibib hitstr abs 55
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, EMBASE, USPATFULL, PCTFULL, HCAPLUS' -
CONTINUE? (Y)/N:y

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L160 ANSWER 55 OF 85 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
ACCESSION NUMBER: 2003266481 EMBASE
TITLE: Unexpected effects of trace impurities on the properties of **polymer-stabilized** ruthenium colloids from different sources of ruthenium(III) chloride hydrate.
AUTHOR: Liu M.; He B.; Liu H.; Yan X.
CORPORATE SOURCE: H. Liu, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, China. hfliu@infoc3.icas.ac.cn
SOURCE: Journal of Colloid and Interface Science, (15 Jul 2003) 263/2 (461-466).
Refs: 39
ISSN: 0021-9797 CODEN: JCISA5
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The stability and the catalytic performances of polyvinylpyrrolidone-

stabilized ruthenium colloids (PVP-Ru) prepared by using RuCl(3).ovrhdot.xH(2)O of different sources have been investigated. The trace impurity content of platinum and palladium in RuCl(3).ovrhdot.xH(2)O was demonstrated to be the main factors affecting the properties of PVP-Ru colloids. .COPYRGT. 2003 Elsevier Inc. All rights reserved.

=> d l160 ibib abs 56-80
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, EMBASE, USPATFULL, PCTFULL, HCAPLUS' - CONTINUE? (Y)/N:y

L160 ANSWER 56 OF 85 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2003386941 EMBASE
TITLE: Terpyridine-based silica supports prepared by ring-opening metathesis polymerization for the selective extraction of noble metals.
AUTHOR: Glatz I.; Mayr M.; Hoogenboom R.; Schubert U.S.; Buchmeiser M.R.
CORPORATE SOURCE: M.R. Buchmeiser, Inst. fur Analyt. Chem./Radiochemie, Universitat Innsbruck, Innrain 52a, A-6020 Innsbruck, Austria. michael.r.buchmeiser@uibk.ac.at
SOURCE: Journal of Chromatography A, (10 Oct 2003) 1015/1-2 (65-71).
Refs: 51
ISSN: 0021-9673 CODEN: JCRAEY
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The synthesis of a terpyridine-based sorbent for solid-phase extraction (SPE) of noble metal ions is described. For this purpose, 4'-(norborn-2-en-5-ylmethylenoxy)terpyridine was copolymerized with norborn-2-ene via Mo(N-2,6-i-Pr(2)-C(6)H(3))(=CHCMe(2)Ph)(OC(CH(3))(CF(3))(2)) (2)-catalyzed ring-opening metathesis polymerization (ROMP) to give a poly(norbornene(900)-b-4'-(norborn-2-en-5-ylmethylenoxy)terpyridine(60)) block-copolymer. This block-copolymer was used for the preparation of **polymer-coated** silica 60 (4.8wt.% coating), which was investigated for its extraction capabilities for Cr(III), Mn(II), Re(II), Fe(III), Ru(III), Co(II), Rh(III), Ir(III), Ni(II), Pd(II), Pt(II), Cu(II), Ag(I), Au(III), Zn(II), Cd(II) and Hg(II), at different pH. Under competitive conditions and at pH <0.6, the selectivity order was Pd ≈ Ag ≈ Au ≈ Pt > Re > Ir > Rh > Ru > Fe > Cr ≈ Mn ≈ Cd ≈ Zn. Enhanced selectivity was observed at pH = 3.5, the order was Au > Hg > Pd ≈ Ag > Rh > Pt > Ir ≈ Re > Cu > Co ≈ Zn ≈ Cd ≈ Ni > Cr > Mn. The maximum metal loading that was achieved under non-competitive conditions was >6mg/g for Au(III), Hg(II), Pd(II) and Ag(I). Even under competitive conditions, loadings of >6mg/g were realized for Au(III) and Hg(II). Quantitative recoveries >97% were observed for all metals in case loading was stopped before reaching the point of breakthrough. .COPYRGT. 2003 Elsevier B.V. All rights reserved.

L160 ANSWER 57 OF 85 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2000112610 EMBASE
TITLE: **Catalysis** of **polymer-protected** Ni/Pd bimetallic nano-clusters for hydrogenation of nitrobenzene derivatives.
AUTHOR: Lu P.; Toshima N.
CORPORATE SOURCE: N. Toshima, Department of Applied Chemistry, School of Engineering, University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113-8656, Japan
SOURCE: Bulletin of the Chemical Society of Japan, (2000) 73/3 (751-758).
Refs: 59
ISSN: 0009-2673 CODEN: BCSJA8
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Poly(N-vinyl-2-pyrrolidone)-protected Ni/Pd bimetallic colloidal nanoparticles, prepared by the polyol reduction method, have been proved to have a nanometer-sized alloy structure with both metals at zerovalent state by our previous study of TEM, XRD, EXAFS, and XPS analyses. Here, dispersions of these bimetallic nanoclusters with different composition ratios are extensively examined as **catalysts** for the hydrogenation of various nitrobenzene derivatives: i.e., p-nitrotoluene, p-nitroanisole, 1- nitronaphthalene, p-nitrobenzonitrile, and methyl p-nitrobenzoate, at 30 °C under an atmospheric pressure of hydrogen. These bimetallic nanoclusters exhibit excellent catalytic properties for the reduction of a nitro group to an amino group with high selectivity. The catalytic activity strongly depends on the metal composition of the particles. The maximum catalytic activity can be observed at a certain intermediate composition ratio, being 3-4 times greater than that of a monometallic colloidal Pd **catalyst.** A bimetallic nanocluster with the mole ratio of Ni: Pd = 1/4 was the most active **catalyst** for the hydrogenation of para-substituted nitrobenzenes. An approximately linear relationship exists between the hydrogenation rate of the substrate with an electron-donating or electron-withdrawing group and the corresponding Hammett constant of the substituent, as well as between the hydrogenation rate and the LUMO energy level of the substrate.

L160 ANSWER 58 OF 85 EMBASE
on STN
ACCESSION NUMBER: 1999206266 EMBASE
TITLE: Enantioselective hydrogenation of pyruvates over **polymer-stabilized** and supported platinum nanoclusters.
AUTHOR: Zuo X.; Liu H.; Guo D.; Yang X.
CORPORATE SOURCE: H. Liu, Chinese Academy of Sciences, China Petro-Chemical Corporation, Institute of Chemistry, Beijing 100080, China
SOURCE: Tetrahedron, (18 Jun 1999) 55/25 (7787-7804).
Refs: 50
ISSN: 0040-4020 CODEN: TETRAB
PUBLISHER IDENT.: S 0040-4020(99)00415-9
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The cinchonidine-modified enantioselective hydrogenation of pyruvates has

been studied over polyvinylpyrrolidone-stabilized platinum (PVP-Pt) and the corresponding alumina-supported platinum (Al2O3-Pt) clusters. It is shown that the **catalysts** with particle size less than 2.0 nm demonstrate >90% enantioselectivity in favor of (R)-lactates. The solvent effect is similar to that over the conventional supported platinum **catalyst** except for tetrahydrofuran. These colloidal and supported clusters are stable with no obvious loss of activity and enantioselectivity even after 18 months standing in air at room temperature. Molecular mechanics calculations of the modifier- reactant interaction on the platinum surface suggest that it is possible to obtain good enantioselectivity on the small clusters.

L160 ANSWER 59 OF 85 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1998310968 EMBASE
TITLE: Synthesis of ion conducting **polymer protected** nanometer size platinum colloids.
AUTHOR: Dalmia A.; Lineken C.L.; Savinell R.F.
CORPORATE SOURCE: A. Dalmia, H Power Corporation, 60 Montgomery Street, Belleville, NJ 07109, United States
SOURCE: Journal of Colloid and Interface Science, (15 Sep 1998) 205/2 (535-537).
Refs: 17
ISSN: 0021-9797 CODEN: JCISA5
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Pt particles have been prepared by reduction of hexachloroplatinic acid with ethylene glycol in the presence of a negatively charged polymer poly(N- sulfonatopropyl p-benzamide). The average size of platinum particles was investigated by transmission electron microscopy and found to be in the nanometer size range. The effects of the polymer content on the average particle size were studied. The average particle size of the Pt colloid prepared from solutions containing a polymer/Pt weight ratio of 20 and 0.2, respectively, varied from 2.45 to 5.9 nm.

L160 ANSWER 60 OF 85 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 97248150 EMBASE
DOCUMENT NUMBER: 1997248150
TITLE: Solvent-resistant carbon electrodes screen printed onto plastic for use in biosensors.
AUTHOR: Kroger s.; Turner A.P.F.
CORPORATE SOURCE: A.P.F. Turner, Cranfield Biotechnology Centre, Cranfield University, Cranfield, Bedfordshire, MK43 OAL, United Kingdom
SOURCE: Analytica Chimica Acta, (1997) 347/1-2 (9-18).
Refs: 19
ISSN: 0003-2670 CODEN: ACACAM
PUBLISHER IDENT.: S 0003-2670(96)00634-4
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB A three electrode design using solvent resistant materials is reported,

enabling the production of screen printed electrodes for use in biosensor applications involving water-miscible organic solvents. Heat stabilised polyester sheets were used as base materials in combination with carbon basal tracks and an epoxy-based **polymer protective** coating. The new electrodes avoid problems with solvent induced baseline shifts displayed by conventional screen-printed electrodes. The material for the underlying basal track has been changed from silver to carbon ink to reduce the number of materials involved in the production and avoid possible interferences. In addition, the design is readily applied in biosensor applications. Different methods for the incorporation of a rhodium **catalyst** are discussed. The application of the electrode system modified with the rhodium **catalyst** for the amperometric detection of hydrogen peroxide in different concentrations of methanol, isopropanol and ethanol is demonstrated.

L160 ANSWER 61 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2004:120135 USPATFULL
TITLE: Solid matrix therapeutic compositions
INVENTOR(S): Unger, Evan C., Tucson, AZ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004091541	A1	20040513
APPLICATION INFO.:	US 2003-622027	A1	20030716 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-828762, filed on 9 Apr 2001, ABANDONED Division of Ser. No. US 1998-75477, filed on 11 May 1998, ABANDONED

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-46379P	19970513 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: REED & EBERLE LLP, 800 MENLO AVENUE, SUITE 210, MENLO PARK, CA, 94025
NUMBER OF CLAIMS: 38
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 4909
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to a solid porous matrix comprising a surfactant in combination with a bioactive agent. The solid porous matrix may be prepared by combining a surfactant and a therapeutic, together with a solvent, to form an emulsion containing random aggregates of the surfactant and the therapeutic, and processing the emulsion by controlled drying, or controlled agitation and controlled drying to form the solid porous matrix.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 62 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2004:2574 USPATFULL
TITLE: **Catalytic** process for the modification of carbohydrates, alcoh droxy compounds
INVENTOR(S): Capan, Emine, Brauns REPUBLIC OF
Hahnlein, Marc Sasch DERAL REPUBLIC OF
Prusse, Ulf, Braunsc REPUBLIC OF

applicants

searched by D. Arno

Vorlop, Klaus-Dieter, Braunschweig, GERMANY, FEDERAL REPUBLIC OF
Begli, Alireza Haji, Ramsen, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): SUDZUCKER AKTIENGESELLSCHAFT (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004002597	A1	20040101
APPLICATION INFO.:	US 2003-340901	A1	20030110 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2001-936891, filed on 19 Oct 2001, PENDING

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 1999-19911504	19990316	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OSTROLENK, FABER, GERB & SOFFEN, LLP, 1180 Avenue of the Americas, New York, NY, 10036-8403
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Page(s)
LINE COUNT: 644
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to the industrial conversion of carbohydrates, alcohols, aldehydes or polyhydroxy compounds in aqueous phase. According to the invention a **catalytic** method is used for the conversion, using a metal **catalyst** consisting of **polymer-stabilized** nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 63 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2003:201606 USPATFULL
TITLE: **Catalytic** process for the modification of carbohydrates, alcohols, aldehydes or polyhydroxy compounds
INVENTOR(S): Capan, Emine, Braunschweig, GERMANY, FEDERAL REPUBLIC OF
Hahnlein, Marc Sascha, Mannheim, GERMANY, FEDERAL REPUBLIC OF
Prusse, Ulf, Braunschweig, GERMANY, FEDERAL REPUBLIC OF
Vorlop, Klaus-Dieter, Braunschweig, GERMANY, FEDERAL REPUBLIC OF
Begli, Alireza Haji, Ramsen, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): SUDZUCKER AKTIENGESELLSCHAFT (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003139594	A1	20030724
APPLICATION INFO.:	US 2003-340913	A1	20030110 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2001-936891, filed on 19 Oct 2001, PENDING

	NUMBER	DATE

PRIORITY INFORMATION:	DE 1999-19911504 19990316	<--
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OSTROLENK, FABER, GERB & SOFFEN, LLP, Attorneys at Law, 1180 Avenue of the Americas, New York, NY, 10036-8403	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	7 Drawing Page(s)	
LINE COUNT:	645	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to the industrial conversion of carbohydrates, alcohols, aldehydes or polyhydroxy compounds in aqueous phase. According to the invention a **catalytic** method is used for the conversion, using a metal **catalyst** consisting of **polymer-stabilized** nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 64 OF 85 USPATFULL on STN

ACCESSION NUMBER:	2003:530 USPATFULL			
TITLE:	Method and product for removing carcinogens from tobacco smoke			
INVENTOR(S):	Bereman, Robert D., Apex, NC, UNITED STATES			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003000538	A1	20030102	
APPLICATION INFO.:	US 2001-7724	A1	20011109	(10)
	NUMBER		DATE	
PRIORITY INFORMATION:	US 2000-247163P		20001110 (60)	<--
	US 2001-322132P		20010911 (60)	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	APPLICATION			
LEGAL REPRESENTATIVE:	KNOBBE MARTENS OLSON & BEAR LLP, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660			
NUMBER OF CLAIMS:	48			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	9 Drawing Page(s)			
LINE COUNT:	3568			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to smoking articles such as cigarettes, and in particular to **catalytic** systems containing metallic or carbonaceous particles that reduce the content of certain harmful or carcinogenic substances, including polyaromatic hydrocarbons, tobacco-specific nitrosamines, carbazole, phenol, and catechol, in mainstream cigarette smoke and in side stream cigarette smoke.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 65 OF 85 USPATFULL on STN

ACCESSION NUMBER:	2002:287094 USPATFULL
TITLE:	Novel acoustically active drug delivery systems
INVENTOR(S):	Unger, Evan C., Tucson, AZ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002159952	A1	20021031
APPLICATION INFO.:	US 2002-84855	A1	20020227 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-75343, filed on 11 May 1998, PENDING

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-46379P	19970513 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Woodcock Washburn LLP, One Liberty Place - 46th Floor, Philadelphia, PA, 19103
NUMBER OF CLAIMS: 46
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Page(s)
LINE COUNT: 5458
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to targeted therapeutic delivery systems comprising a gas or gaseous precursor filled microsphere wherein said gas or gaseous precursor filled microsphere comprises an oil, a surfactant, and a therapeutic compound. Methods of preparing the targeted therapeutic delivery systems are also embodied by the present invention which comprise processing a solution comprising an oil and a surfactant in the presence of a gaseous precursor, at a temperature below the gel to liquid crystalline phase transition temperature of the surfactant to form gas or gaseous precursor filled microsphere, and adding to said microspheres a therapeutic compound resulting in a targeted therapeutic delivery system, wherein said processing is selected from the group consisting of controlled agitation, controlled drying, and a combination thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 66 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2002:72457 USPATFULL
TITLE: SOLID POROUS MATRICES AND METHODS OF MAKING AND USING THE SAME
INVENTOR(S): UNGER, EVAN C., TUCSON, AZ, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002039594	A1	20020404	
APPLICATION INFO.:	US 1998-75477	A1	19980511 (9)	<--

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-46379P	19970513 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: WOODCOCK WASHBURN KURTZ, MACKIEWICZ AND NORRIS, ONE LIBERTY PLACE 46TH FLOOR, PHILADELPHIA, PA, 19103
NUMBER OF CLAIMS: 106
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 5207
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a solid porous matrix comprising a solvent and a surfactant in combination with a bioactive agent. The

solvent and the surfactant may, if desired, form vesicles, an agglomeration of which comprises the matrix. The composition optionally comprises a gas or a gaseous precursor. The emulsion may be dried, and subsequently reconstituted in an aqueous or organic solution.

The present invention is also directed to a method of preparing a solid porous matrix comprising combining a solvent, a surfactant, and a therapeutic to form an emulsion; and processing the emulsion by controlled drying, or controlled agitation and controlled drying to form a solid porous matrix. The resulting solid porous matrix may also comprise a gas or gaseous precursor and be added to a resuspending medium.

A method for the controlled delivery of a targeted therapeutic to a region of a patient is another embodiment of the present invention. The method comprises administering to the patient a composition having a solid porous matrix comprising a solvent, a surfactant, a therapeutic, and a gas or gaseous precursor, monitoring the composition using energy to determine the presence of the composition in the region; and releasing the therapeutic from the composition in the region using energy.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 67 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2002:17399 USPATFULL
TITLE: Saccharide sensing molecules having enhanced fluorescent properties
INVENTOR(S): Satcher, Joe H., JR., Patterson, CA, UNITED STATES
Lane, Stephen M., Oakland, CA, UNITED STATES
Darrow, Christopher B., Pleasanton, CA, UNITED STATES
Cary, Douglas R., Oakland, CA, UNITED STATES
Tran, Joe Anh, San Diego, CA, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002010279	A1	20020124	
	US 6673625	B2	20040106	
APPLICATION INFO.:	US 2001-823522	A1	20010330	(9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2000-663567, filed on 15 Sep 2000, PENDING			

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1999-154103P	19990915 (60)	<--
	US 2000-194673P	20000404 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: GATES & COOPER LLP, HOWARD HUGHES CENTER, 6701 CENTER DRIVE WEST, SUITE 1050, LOS ANGELES, CA, 90045
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 22 Drawing Page(s)
LINE COUNT: 2453
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides formulae for fluorescent compounds that have a number of properties which make them uniquely suited for use in sensors of analytes such as saccharides. The advantageous fluorescent properties include favorable excitation wavelengths, emission wavelengths, fluorescence lifetimes, and photostability. Additional

advantageous properties include enhanced aqueous solubility, as well as temperature and pH sensitivity. The compound comprises an aryl or a substituted phenyl botonic acid that acts as a substrate recognition component, a fluorescence switch component, and a fluorophore. Fluorescent compounds are described that are excited at wavelengths greater than 400 nm and emit at wavelengths greater than 450 nm, which is advantageous for optical transmission through skin. The fluorophore is typically selected from transition metal-ligand complexes and thiazine, oxazine, oxazone, or oxazine-one as well as anthracene compounds. The fluorescent compound can be immobilized in a glucose permeable biocompatible polymer matrix that is implantable below the skin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 68 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2002:167866 USPATFULL
TITLE: Acoustically active drug delivery systems
INVENTOR(S): Unger, Evan C., Tucson, AZ, United States
PATENT ASSIGNEE(S): Bristol-Myers Squibb Medical Imaging, Inc., Princeton, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 6416740	B1	20020709		
APPLICATION INFO.:	US 1998-75343		19980511	(9)	<--

	NUMBER	DATE		
PRIORITY INFORMATION:	US 1997-46379P	19970513	(60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Dudash, Diana
ASSISTANT EXAMINER: Sharareh, Shahnam
LEGAL REPRESENTATIVE: Woodcock Washburn LLP
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 5660
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to targeted therapeutic delivery systems comprising a gas or gaseous precursor filled microsphere wherein said gas or gaseous precursor filled microsphere comprises an oil, a surfactant, and a therapeutic compound. Methods of preparing the targeted therapeutic delivery systems are also embodied by the present invention which comprise processing a solution comprising an oil and a surfactant in the presence of a gaseous precursor, at a temperature below the gel to liquid crystalline phase transition temperature of the surfactant to form gas or gaseous precursor filled microsphere, and adding to said microspheres a therapeutic compound resulting in a targeted therapeutic delivery system, wherein said processing is selected from the group consisting of controlled agitation, controlled drying, and a combination thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 69 OF 85 USPATFULL on STN
ACCESSION NUMBER: 2001:144937 USPATFULL
TITLE: Solid matrix therapeutic compositions
INVENTOR(S): Unger, Evan C., Tucson, AZ, United States

PATENT ASSIGNEE(S): ImaRx Therapeutics, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001018072	A1	20010830
APPLICATION INFO.:	US 2001-828762	A1	20010409 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-75477, filed on 11 May 1998, PENDING

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-46379P	19970513 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Mackiewicz & Norris LLP, One Liberty Place - 46th Floor, Philadelphia, PA, 19103
NUMBER OF CLAIMS: 38
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 4899
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a solid porous matrix comprising a surfactant in combination with a bioactive agent. The solid porous matrix may be prepared by combining a surfactant and a therapeutic, together with a solvent, to form an emulsion containing random aggregates of the surfactant and the therapeutic, and processing the emulsion by controlled drying, or controlled agitation and controlled drying to form the solid porous matrix.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 70 OF 85 USPATFULL on STN
ACCESSION NUMBER: 1999:78190 USPATFULL
TITLE: Metal oxide matrix biosensors
INVENTOR(S): Rauh, R. David, Newton, MA, United States
PATENT ASSIGNEE(S): EIC Laboratories, Inc., Norwood, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5922183		19990713	<--
APPLICATION INFO.:	US 1997-880615		19970623 (8)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Bell, Bruce F.
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 946
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A thin film matrix for biomolecules, suitable for forming electrochemical and biosensors comprising a general class of materials known as hydrous metal oxides which are also conductive or semiconductive of electrons and which have been shown to have excellent stability against dissolution or irreversible reaction in aqueous and nonaqueous solutions. The composites are bifunctional, providing both amperometric and potentiometric (pH) transduction. The thin film composites of the oxides and biological molecules such as enzymes, antibodies, antigens and DNA strands can be used for both amperometric and potentiometric sensing. Hydrous Ir oxide is the preferred matrix

embodiment, but conducting or semiconducting oxides, of Ru, Pd, Pt, Zr, Ti and Rh and mixtures thereof have similar features. The hydrous oxides are very stable against oxidation damage.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 71 OF 85 USPATFULL on STN
ACCESSION NUMBER: 97:35804 USPATFULL
TITLE: Biosensor and interface membrane
INVENTOR(S): Turner, Robin F. B., Vancouver, Canada
Kilburn, Douglas G., Vancouver, Canada
Phelps, Michael R., Kingston, Canada
PATENT ASSIGNEE(S): The University of British Columbia - University-Industry Liaison Office, Vancouver, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5624537		19970429		<--
APPLICATION INFO.:	US 1994-309338		19940920	(8)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Bell, Bruce F.
LEGAL REPRESENTATIVE: Christensen O'Connor Johnson & Kindness PLLC
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 1818
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A regenerable biosensor probe adapted for positioning in a bioreactor comprises a selectively permeable interface membrane, a porous protein-receiving matrix adjacent to the interface membrane, an indicating electrode, an inlet conduit through which fresh protein conjugate may flow to the protein-receiving matrix, and an outlet conduit through which spent protein conjugate may be removed from the protein-receiving matrix. A selectively permeable interface membrane, which may be used in a biosensor system to separate biochemical, optical or other processes from an analyte matrix comprises a supporting mesh, a perfluorosulfonic acid polymer impregnated substrate and a homogenous film of perfluorosulfonic acid polymer.

A method of preparing this interface membrane comprises fixing a substrate on to a supporting mesh to form a substrate membrane, casting a perfluorosulfonic and polymer on the substrate membrane and curing the product to so formed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 72 OF 85 USPATFULL on STN
ACCESSION NUMBER: 97:3701 USPATFULL
TITLE: Subcutaneous glucose electrode
INVENTOR(S): Heller, Adam, 5317 Valburn Cir., Austin, TX, United States 78731
Pishko, Michael V., 4304C Duval Rd., Austin, TX, United States 78759

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5593852		19970114		<--
APPLICATION INFO.:	US 1994-299526		19940901	(8)	<--

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-161682, filed on 2 Dec 1993, now patented, Pat. No. US 5356786
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Kight, John
ASSISTANT EXAMINER: Leary, Louise N.
LEGAL REPRESENTATIVE: Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A.
NUMBER OF CLAIMS: 31
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1059
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A small diameter flexible electrode designed for subcutaneous in vivo amperometric monitoring of glucose is described. The electrode is designed to allow "one-point" in vivo calibration, i.e., to have zero output current at zero glucose concentration, even in the presence of other electroreactive species of serum or blood. The electrode is preferably three or four-layered, with the layers serially deposited within a recess upon the tip of a polyamide insulated gold wire. A first glucose concentration-to-current transducing layer is overcoated with an electrically insulating and glucose flux limiting layer (second layer) on which, optionally, an immobilized interference-eliminating horseradish peroxidase based film is deposited (third layer). An outer (fourth) layer is biocompatible.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 73 OF 85 USPATFULL on STN
ACCESSION NUMBER: 95:50070 USPATFULL
TITLE: Electrode having a polymer coating with a redox enzyme bound thereto, the polymer coating being formed on the walls of pores extending through a porous membrane
INVENTOR(S): Koopal, Cornelis G. J., Zeist, Netherlands
Schasfoort, Richardus B. M., Amersfoort, Netherlands
Nolte, Roeland J. M., Nijmegen, Netherlands
PATENT ASSIGNEE(S): Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek Tno, Delft, Netherlands (non-U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5422246		19950606		<--
	WO 9210584		19920625		<--
APPLICATION INFO.:	US 1993-75509		19930614	(8)	<--
	WO 1991-NL263		19911213		<--
			19930614	PCT 371 date	
			19930614	PCT 102(e) date	

	NUMBER	DATE	
PRIORITY INFORMATION:	NL 1990-2764	19901214	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Beisner, William H.
ASSISTANT EXAMINER: Turner, Ralph G.
LEGAL REPRESENTATIVE: Young & Thompson
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 20 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 1101

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An electrode is composed of a membrane, provided with open pores running through said membrane, the walls of the pores having an electrically conducting polymer coating, containing a redox enzyme bound thereto. In these type of electrodes a direct electron transfer is possible between the redox enzyme, e.g. glucose oxidase, and the electrically conducting polymer, e.g. polypyrrole. Such an electrode, which can be produced in a simple manner, has extensive application possibilities such as, for example, in a biosensor or in a production installation for the preparation of specific chemicals. As starting materials for the electrodes of the invention, use can be made of marketed porous membrane materials as well as of latex particles. The walls of the pores of porous membrane and the interstices of the latex particles respectively are provided with a thin layer of the electrically conducting polymer which in turn is provided with a redox enzyme suitable for the pursued aim.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 74 OF 85 USPATFULL on STN

ACCESSION NUMBER:	94:42120 USPATFULL			
TITLE:	Amperometric sensor for single and multicomponent analysis			
INVENTOR(S):	Gunasingham, Hari, Singapore, Singapore			
PATENT ASSIGNEE(S):	National University of Singapore, Kent Ridge, Singapore (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5312590		19940517	<--
APPLICATION INFO.:	US 1989-342075		19890424 (7)	<--
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Housel, James C.			
ASSISTANT EXAMINER:	Snay, Jeffrey R.			
LEGAL REPRESENTATIVE:	Garmong, Gregory O.			
NUMBER OF CLAIMS:	13			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 5 Drawing Page(s)			
LINE COUNT:	556			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A device for detecting chemical species in liquids having one or more sensor elements is described. Each sensor element includes a test electrode coated with a perfluorinated ion-exchange polymer film incorporating a redox mediator; an immobilized enzyme layer and, over this, a semipermeable membrane. The invention discloses the method whereby the test electrode is normally kept at a zero potential and then poised at a positive potential for a few milliseconds during which time the test signal is evaluated. The invention formulates a method for calibrating each measurement sample and reference solution wells. These are symetrically arranged with respect to the sensor element so that the center of the sample solution well and the center of the reference solution well are equidistant to the sensor element. Thus the diffusion of chemical species from the sample and reference solutions occurs equally and can be correlated. The invention additionally discloses a method for selectively detecting a number of species in a single sample drop through the provision of multi-sensor elements. The technique proposed in the invention is particularly suitable for the determination of glucose and cholesterol in biological fluids.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 75 OF 85 USPATFULL on STN
ACCESSION NUMBER: 94:1256 USPATFULL
TITLE: Radiation shielding fabric
INVENTOR(S): Vaughn, George D., Ballwin, MO, United States
PATENT ASSIGNEE(S): Monsanto Company, St. Louis, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5275861		19940104		<--
APPLICATION INFO.:	US 1992-820450		19920109	(7)	<--

DISCLAIMER DATE: 20090121
RELATED APPLN. INFO.: Continuation of Ser. No. US 1990-609718, filed on 13 Nov 1990, now patented, Pat. No. US 5082734 which is a continuation-in-part of Ser. No. US 1989-454565, filed on 21 Dec 1989, now abandoned And a continuation-in-part of Ser. No. US 1990-569882, filed on 20 Aug 1990, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ryan, Patrick J.
ASSISTANT EXAMINER: Lee, Kam F.
LEGAL REPRESENTATIVE: Kelley, Thomas E., Wachter, Mark F.
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1308
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Electromagnetic radiation shielding textile material comprising metal-coated fabric adapted to be applied with overlapping seams at least 4 cm wide to provide at least 80 dB of far-field shielding against electromagnetic radiation between 0.1 and 10 gigahertz. Fabric, e.g. non-woven nylon fabric, coated with at least one layer of electrolessly-deposited metal, e.g. at least 15 g/m.sup.2 copper, is useful as backing for wallpaper which can provide effective far-field shielding of electromagnetic radiation.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 76 OF 85 USPATFULL on STN
ACCESSION NUMBER: 92:5464 USPATFULL
TITLE: **Catalytic**, water-soluble polymeric films for metal coatings
INVENTOR(S): Vaughn, George D., Ballwin, MO, United States
PATENT ASSIGNEE(S): Monsanto Company, St. Louis, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5082734		19920121		<--
APPLICATION INFO.:	US 1990-609718		19901113	(7)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ryan, Patrick J.
LEGAL REPRESENTATIVE: Kelley, Thomas E., Shear, Richard H.
NUMBER OF CLAIMS: 59
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)

LINE COUNT: 1807
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Metal coated articles where the metal is electrolessly deposited onto **catalytic** films prepared by thermally activating **catalytically** inert films formed from an aqueous solution comprising polymer, e.g. cellulosic, vinyl alcohol or oxyolefin polymers, and **catalytic** metal of Group 8, e.g. palladium. Copper electrolessly deposited on activated films exhibits high ductility similar to electrolytic copper, e.g. at least about 8 percent ductility.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 77 OF 85 USPATFULL on STN
ACCESSION NUMBER: 91:55790 USPATFULL
TITLE: Electrochemical detector for liquid chromatographic analysis of carbohydrates
INVENTOR(S): Kuwana, Theodore, Lawrence, KS, United States
Marioli, Juan, Lawrence, KS, United States
Zadeii, Javad M., Lawrence, KS, United States
PATENT ASSIGNEE(S): Shimadzu Corporation, Kyoto, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5031449		19910716		<--
APPLICATION INFO.:	US 1990-487317		19900302	(7)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Williams, Hezron E.
ASSISTANT EXAMINER: Francos, W.
LEGAL REPRESENTATIVE: Armstrong, Nikaido, Marmelstein, Kubovcik & Murray
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 7
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 582
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A highly sensitive and selective electrochemical detector has been developed for the liquid chromatograph analysis of carbohydrates. This detector includes copper particles and copper particles coated with copper oxide particles dispersed in a perfluorosulfonate ionomer film which is cast onto the surface of a glassy carbon electrode. The copper is electrochemically dispersed into the perfluorosulfonate ionomer by a constant potential method. The response of the detector is based on the electrolytic generation of a higher oxidation state species of copper **catalytically** oxidizing carbohydrates in alkaline solutions at a pH greater than 13.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 78 OF 85 USPATFULL on STN
ACCESSION NUMBER: 86:43540 USPATFULL
TITLE: Perfluorosulfonic acid **polymer-coated** indicator electrodes
INVENTOR(S): Seago, James L., Bear, DE, United States
PATENT ASSIGNEE(S): E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION: US 4604182 19860805 <--
APPLICATION INFO.: US 1985-696196 19850129 (6) <--
RELATED APPLN. INFO.: Division of Ser. No. US 1983-523168, filed on 15 Aug 1983, now patented, Pat. No. US 4517291
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Niebling, John F.
ASSISTANT EXAMINER: Chapman, Terryence
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 405
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is described for the amperometric determination of the concentration in a biological sample of a constituent which is a substrate for an oxidase enzyme by (1) **catalyzing** the substrate with the enzyme, thereby consuming O.sub.2 and producing H.sub.2 O.sub.2 and (2) measuring the O.sub.2 consumption or H.sub.2 O.sub.2 production by means of an inert metal indicator electrode intimately coated with a thin film of a perfluorosulfonic acid polymer.

A reaction chamber is described which provides means for contacting the sample with the enzyme and means for making amperometric measurements utilizing inert metal indicator electrodes coated with a thin film of a perfluorosulfonic acid polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 79 OF 85 USPATFULL on STN
ACCESSION NUMBER: 85:28513 USPATFULL
TITLE: Biological detection process using **polymer-coated** electrodes
INVENTOR(S): Seago, James L., Bear, DE, United States
PATENT ASSIGNEE(S): E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 4517291		19850514	<--
APPLICATION INFO.:	US 1983-523168		19830815 (6)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Williams, Howard S.
ASSISTANT EXAMINER: Chapman, Terryence
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 395
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is described for the amperometric determination of the concentration in a biological sample of a constituent which is a substrate for an oxidase enzyme by (1) **catalyzing** the substrate with the enzyme, thereby consuming O.sub.2 and producing H.sub.2 O.sub.2 and (2) measuring the O.sub.2 consumption or H.sub.2 O.sub.2 production by means of an inert metal indicator electrode intimately coated with a thin film of a perfluorosulfonic acid polymer.

A reaction chamber is described which provides means for contacting the sample with the enzyme and means for making amperometric measurements utilizing inert metal indicator electrodes coated with a thin film of a

perfluorosulfonic acid polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L160 ANSWER 80 OF 85 USPATFULL on STN
ACCESSION NUMBER: 83:15535 USPATFULL
TITLE: Hydrogenation of saccharides
INVENTOR(S): Arena, Blaise J., Des Plaines, IL, United States
PATENT ASSIGNEE(S): UOP Inc., Des Plaines, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 4380679		19830419		<--
APPLICATION INFO.:	US 1982-367494		19820412	(6)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Evans, Joseph E.
LEGAL REPRESENTATIVE: Hoatson, Jr., James R., Nelson, Raymond H., Page, II, William H.
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
LINE COUNT: 560
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Saccharides such as glucose, fructose, starch, etc. may be hydrogenated by treatment with hydrogen in the presence of a **catalyst** which comprises a metal of Group VIII of the Periodic Table composited on a support comprising a carbonaceous pyropolymer possessing recurring units containing at least carbon and hydrogen atoms at a temperature in the range of from about 90° to about 150° C. and a pressure in the range of from about 500 to about 3000 psi to obtain polyols. In such a manner, glucose may be hydrogenated to sorbitol and mannitol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l160 ibib abs 81-
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, EMBASE, USPATFULL, PCTFULL, HCAPLUS' - CONTINUE? (Y)/N:y

YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L160 ANSWER 81 OF 85 PCTFULL COPYRIGHT 2004 Univentio on STN
ACCESSION NUMBER: 2002047806 PCTFULL ED 20020709 EW 200225
TITLE (ENGLISH): METHODS AND APPARATUS FOR THE **OXIDATION** OF **GLUCOSE** MOLECULES
TITLE (FRENCH): METHODES ET APPAREIL D'OXYDATION DE MOLECULES DE **GLUCOSE**
INVENTOR(S): CHAN,, Kwok-Yu, Flat A, 15th Floor, Block 1, Pine Court, 23 Sha Wan Drive, Pokfulam, Hong Kong, CN;
ZHANG,, Xin, Room B14-501, 243 University Road, 515063 Shantou, Guangdong, CN;
LAM,, Chung Man, Room 613, Yiu Wah House, Yiu Tung Estate, Shakeiwan, Hong Kong, CN;
TSEUNG,, Alfred C. C., 60 Grove Avenue, London N10 2AN, GB;
SHEN,, Peikang, Room 303, Block 17, 84 Wen Yi Road, Hangzhou, CN;
YOU,, Jinkua, 140-701 Hu Bian South Road, 361004

Xiamen, CN
PATENT ASSIGNEE(S): THE UNIVERSITY OF HONG KONG, Pokfulam Road, Hong Kong, CN [CN, CN]
AGENT: XU, Xun$, SHANGHAI PATENT & TRADEMARK LAW OFFICE, 435 Guiping Road, Caohejing Hi-Tech Park, 200233 Shanghai$, CN
LANGUAGE OF FILING: English
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002047806	A1	20020620

DESIGNATED STATES
W: CN
RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
APPLICATION INFO.: WO 2001-CN1619 A 20011213
PRIORITY INFO.: **US 2000-60/255,608 20001214**

ABEN A **catalyst** comprising **Pt**-Co alloy, or **Pt**-Co-Sn alloy or **Pt**-Co<sb>m</sb>O<sb>n</sb> mixed metal oxides is disclosed to be used as a **catalyst** for the direct electrochemical **oxidation** of **glucose** or other simple sugars and carbohydrates at room temperature. The **catalyst** can be supported on metal electrodes, graphite electrodes, porous carbon electrodes, or gas diffusion electrodes. An electrode containing this **catalyst** will be used as the key component in a direct **glucose**-air fuel cell operating in alkaline media with a good room temperature performance. This **catalyst** can also be applied as a key electrode material in a **glucose** sensor to detect **glucose** concentration in neutral or alkaline medium. The preparation method of the **catalyst**, optimum composition, and results of **glucose** sensor and **glucose** fuel cell applications are disclosed.

ABFR L'invention concerne un **catalyseur** comprenant un alliage **Pt**-Co, ou un alliage **Pt**-Co-Sn ou des oxydes metalliques a melange **Pt**-Co<sb>m</sb>O<sb>n</sb> a utiliser en tant que **catalyseur** pour l'oxydation electrochimique directe de **glucose** ou d'autres sucres et glucides simples a temperature ambiante. Le **catalyseur** peut etre porte sur des electrodes metalliques, des electrodes en graphite, des electrodes en carbone poreux ou des electrodes a diffusion de gaz. Une electrode contenant ce **catalyseur** sera utilisee en tant que constituant cle dans une pile a combustible a **glucose**-air directe fonctionnant en milieux alcalins avec un bon rendement a temperature ambiante. Ce **catalyseur** peut aussi etre applique en tant que materiau cle d'electrode dans un detecteur de **glucose** afin de detecter la concentration de **glucose** en milieu neutre ou alcalin. L'invention concerne egalement le procede

de preparation du **catalyseur**, d'une composition optimale ainsi que les resultats d'applications dans un detecteur de **glucose** et une pile a combustible a **glucose.**

L160 ANSWER 82 OF 85 PCTFULL COPYRIGHT 2004 Univentio on STN
ACCESSION NUMBER: 2002028528 PCTFULL ED 20020627 EW 200215
TITLE (ENGLISH): SUPPORTED **CATALYST** CONSISTING OF METAL OF THE **PLATINUM** GROUP AND OBTAINED BY MEANS OF CONTROLLED ELECTROLESS DEPOSITION
TITLE (FRENCH): **CATALYSEUR** EN METAL DU GROUPE DU PLATINE SUR SUPPORT, OBTENU PAR DEPOT SANS COURANT CONTROLE
TITLE (GERMAN): GETRAeGERTER, DURCH KONTROLLIERTE STROMLOSE ABSCHEIDUNG ERHAeLTLICHER PLATINMETALL-KATALYSATOR
INVENTOR(S): BUTZ, Thomas, Welserstrasse 25a, 67063 Ludwigshafen, DE [DE, DE];
JUNICKE, Henrik, Friedrichsplatz 8, 68165 Mannheim, DE [DE, DE]
PATENT ASSIGNEE(S): BASF AKTIENGESELLSCHAFT, 67056 Ludwigshafen, DE [DE, DE], for all designates States except US;
BUTZ, Thomas, Welserstrasse 25a, 67063 Ludwigshafen, DE [DE, DE], for US only;
JUNICKE, Henrik, Friedrichsplatz 8, 68165 Mannheim, DE [DE, DE], for US only
AGENT: KINZEBACH, Werner$, Ludwigsplatz 4, 67059 Ludwigshafen$, DE
LANGUAGE OF FILING: German
LANGUAGE OF PUBL.: German
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002028528	A1	20020411

DESIGNATED STATES
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZW
RW (EAPO): AM AZ BY KG KZ MD RU TJ TM
RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
APPLICATION INFO.: WO 2001-EP11346 A 20011001
PRIORITY INFO.: **DE 2000-100 48 844.7 20001002**

ABEN The invention relates to a supported **catalyst** consisting of metal of the **platinum** group. Said **catalyst** can be obtained by means of controlled electroless deposition of at least one metal of the **platinum** group from a precipitation solution containing i) at least one homogeneously dissolved compound consisting of metal of the **platinum** group, ii) a reducing agent, and iii) at least one collagen selected from iospoly acids and heteropoly acids of niobium, tantalum, molybdenum, tungsten and vanadium or the salts of the same. The invention also relates to a method for **hydrogenating** inorganic or organic compounds using the **catalyst** which is produced by means of controlled electroless deposition, especially for the direct synthesis of hydrogen peroxide.
ABFR L'invention concerne un **catalyseur** en metal du groupe du platine, obtenu par depot sans courant controle d'au moins un metal du groupe du platine provenant d'une solution de precipitation qui contient

i) au moins un compose de metal du groupe du platine dissous de maniere homogene ; ii) un agent de **reduction** et iii) au moins un collagene selectionne parmi des isopolyacides et des heteropolyacides de niobium, de tantale, de molybdene, de tungstene et de vanadium ou leurs sels. L'invention concerne en outre un procede d'**hydrogenation** de composes inorganiques ou organiques a l'aide du **catalyseur** produit par depot sans courant controle, s'utilisant notamment dans la synthese directe de peroxyde d'hydrogene.

ABDE Die Erfindung betrifft einen getraegerten Platinmetall-Katalysator, erhaeltlich durch kontrollierte stromlose Abscheidung wenigstens eines Platinmetalls aus einer Abscheidungsloesung, die i) wenigstens eine homogen geloeste Platinmetallverbindung, ii) ein Reduktionsmittel und iii) wenigstens ein unter Isopolysaeuren und Heteropolysaeuren von Niob, Tantal, Molybdaen, Wolfram und Vanadium oder deren Salze ausgewaehltes Kontrollagens enthaelt. Die Erfindung betrifft ausserdem ein Verfahren zur Hydrierung anorganischer oder organischer Verbindungen unter Verwendung des durch die kontrollierte stromlose Abscheidung hergestellten Katalysators, insbesondere zur Direktsynthes von Wasserstoffperoxid.

L160 ANSWER 83 OF 85 PCTFULL COPYRIGHT 2004 Univentio on STN
ACCESSION NUMBER: 2002028527 PCTFULL ED 20020627 EW 200215
TITLE (ENGLISH): METHOD FOR PRODUCING **CATALYSTS** CONSISTING OF METAL OF THE **PLATINUM** GROUP BY MEANS OF ELECTROLESS DEPOSITION AND THE USE THEREOF FOR THE DIRECT SYNTHESIS OF HYDROGEN PEROXIDE
TITLE (FRENCH): PROCEDE DE PRODUCTION DE **CATALYSEURS** EN METAL DU GROUPE DU PLATINE PAR DEPOT SANS COURANT ET LEUR UTILISATION POUR LA SYNTHESE DIRECTE DE PEROXYDE D'HYDROGENE
TITLE (GERMAN): VERFAHREN ZUR HERSTELLUNG VON PLATINMETALL-KATALYSATOREN DURCH STROMLOSE ABSCHEIDUNG UND DEREN VERWENDUNG ZUR DIREKTSYNTHESE VON WASSERSTOFFPEROXID
INVENTOR(S): FISCHER, Martin, Elbinger Weg 1, 67071 Ludwigshafen, DE [DE, DE];
BUTZ, Thomas, Ida-Dehmel-Ring 6a, 68309 Mannheim, DE [DE, DE]
PATENT ASSIGNEE(S): BASF AKTIENGESELLSCHAFT, 67056 Ludwigshafen, DE [DE, DE], for all designates States except US;
FISCHER, Martin, Elbinger Weg 1, 67071 Ludwigshafen, DE [DE, DE], for US only;
BUTZ, Thomas, Ida-Dehmel-Ring 6a, 68309 Mannheim, DE [DE, DE], for US only
AGENT: KINZEBACH, Werner$, Ludwigsplatz 4, 67059 Ludwigshafen$, DE
LANGUAGE OF FILING: German
LANGUAGE OF PUBL.: German
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 2002028527	A1	20020411

DESIGNATED STATES
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZW
RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
APPLICATION INFO.: WO 2001-EP11347 A 20011001
PRIORITY INFO.: **DE 2000-100 48 844.7 20001002**

ABEN The invention relates to a method for producing **catalysts** by depositing at least one metal of the **platinum** group on a non-porous, non-metallic carrier without using an electric current. The invention also relates to the **catalysts** obtained according to the inventive method, the use of said **catalysts** for synthesising hydrogen peroxide from the elements and for **hydrogenating** organic compounds, and a method for producing hydrogen peroxide using said **catalysts.**

ABFR L'invention concerne un procede permettant de produire des **catalyseurs** par depot sans courant d'au moins un metal du groupe du platine sur un support non metallique non poreux, les **catalyseurs** obtenus a l'aide dudit procede, l'utilisation des **catalyseurs** pour la synthese de peroxyde d'hydrogene a partir des elements, afin d'hydrogener des composes organiques. L'invention concerne en outre un procede permettant de produire du peroxyde d'hydrogene a l'aide desdits **catalyseurs.**

ABDE Die vorliegende Erfindung betrifft ein Verfahren zur Herstellung von Katalysatoren durch stromloses Abscheiden wenigstens eines Platinmetalls auf einem nichtporoesen nichtmetallischen Traeger, die nach diesem Verfahren erhaeltlichen Katalysatoren, die Verwendung der Katalysatoren zur Synthese von Wasserstoffperoxid aus den Elementen, zur Hydrierung von organischen Verbindungen sowie ein Verfahren zur Herstellung von Wasserstoffperoxid unter Verwendung dieser Katalysatoren.

L160 ANSWER 84 OF 85 PCTFULL COPYRIGHT 2004 Univentio on STN
ACCESSION NUMBER: 1999008650 PCTFULL ED 20020515
TITLE (ENGLISH): USE OF ASCORBIC ACID IN PERMANENT WAVING AND HAIR COLORING COMPOSITIONS
TITLE (FRENCH): UTILISATION D'ACIDE ASCORBIQUE POUR DES COMPOSITIONS DESTINEES AUX PERMANENTES ET A LA COLORATION DES CHEVEUX
INVENTOR(S): SCHULTZ, Thomas;
FADEEVA, Natalya;
CANNELL, David, W.
PATENT ASSIGNEE(S): L'OREAL
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9908650	**A2**	**19990225**

DESIGNATED STATES
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
APPLICATION INFO.: **WO 1998-IB1529 A 19980818**
PRIORITY INFO.: **US 1997-08/915,320 19970820**

ABEN A novel oxidizing system comprising ascorbic acid, at least one metal ion and an oxidizing
agent capable of generating an oxidizing potential of from about 100 to about 500 millivolts at a pH

ranging from about 2 to about 10. The oxidizing system can be used in quenching or neutralizing
permanent wave processes and in developing **oxidative** hair color.

ABFR Nouveau systeme d'oxydation qui comporte de l'acide ascorbique, au moins un ion metallique et
un agent oxydant capable de produire un potentiel d'oxydation d'environ 100 a environ 500 millivolts
a un pH allant d'environ 2 a environ 10. Ledit systeme d'oxydation peut etre utilise pour stopper ou
neutraliser les processus de permanente, et pour obtenir une couleur de cheveux par oxydation.

L160 ANSWER 85 OF 85 PCTFULL COPYRIGHT 2004 Univentio on STN
ACCESSION NUMBER: 1998051811 PCTFULL ED 20020514
TITLE (ENGLISH): PROCESS FOR THE SELECTIVE **OXIDATION** OF ORGANIC COMPOUNDS
TITLE (FRENCH): PROCEDE D'OXYDATION SELECTIVE DE COMPOSES ORGANIQUES
INVENTOR(S): D'AMORE, Michael, Brian
PATENT ASSIGNEE(S): E.I. DU PONT DE NEMOURS AND COMPANY;
D'AMORE, Michael, Brian
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 9851811	**A1**	**19981119**

DESIGNATED STATES
W: JP US AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
APPLICATION INFO.: **WO 1998-US8882 A 19980512**
PRIORITY INFO.: **US 1997-60/046,709 19970516**

ABEN A process for the manufacture of oxygenated organic compounds by employing an **oxidase** to
generate H2O2 is disclosed. The generated H2O2 is used to oxidize an oxidizable organic substrate in
the presence of a metal-containing **catalyst.** An enzyme system of an insoluble carrier of silicon
oxide and an oxide of Ag, Co, Ce, Mn, Fe, **Cu**, Cr, Ti, V, Mo or W, coupled with an **oxidase** enzyme
capable of producing H2O2 when reacted with a hydrogen or an electron donor in the presence of
oxygen, is also disclosed.

ABFR L'invention concerne un procede d'elaboration de composes organiques oxygenes par oxydase
visant a fournir du H2O2 pour l'oxydation d'un substrat organique oxydable en presence d'un
catalyseur a base de metal. L'invention concerne aussi un systeme d'enzymes constitue d'un vecteur
insoluble d'oxyde de silicium et d'un oxyde de Ag, Co, Ce, Mn, Fe, **Cu**, Cr, Ti, V, Mo ou W en
combinaison avec une oxydase pouvant fournir du H2O2 dans la reaction avec un donneur d'hydrogene ou
d'electrons en presence d'oxygene.

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=> => fil zcaplus

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FILE COVERS 1907 - 31 Aug 2004 VOL 141 ISS 10
FILE LAST UPDATED: 30 Aug 2004 (20040830/ED)

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=> fil hcaplus

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FILE COVERS 1907 - 31 Aug 2004 VOL 141 ISS 10
FILE LAST UPDATED: 30 Aug 2004 (20040830/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> fil pascal

FILE 'PASCAL' ENTERED AT 09:19:18 ON 31 AUG 2004

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FILE LAST UPDATED: 30 AUG 2004       <20040830/UP>
FILE COVERS 1977 TO DATE.

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LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d que l9
L1             6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "CAPAN EMINE"/AU
L2             3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("HAHNLEIN M"/AU OR "HAHNLEIN
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L3            19 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("PRUSSE U"/AU OR "PRUSSE
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L4           152 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("VORLOP K"/AU OR "VORLOP K
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L6           169 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5)
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L9            10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 AND (?METAL? OR PT OR
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=> d que l14
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L12           26 SEA FILE=PASCAL ABB=ON  PLU=ON  L11 AND ?CATALY?
L13            7 SEA FILE=PASCAL ABB=ON  PLU=ON  L12 AND ?POLYMER?
L14            2 SEA FILE=PASCAL ABB=ON  PLU=ON  L13 AND (?METAL? OR PT OR
                 ?PLATINUM? OR PD OR ?PALLADIUM? OR RH OR ?RODIUM? OR RU OR
                 ?RUTHENIUM? OR CU OR ?COPPER? OR NI OR ?NICKEL?)


=> dup rem l9 l14

FILE 'HCAPLUS' ENTERED AT 09:19:41 ON 31 AUG 2004
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PROCESSING COMPLETED FOR L9
PROCESSING COMPLETED FOR L14
L15           10 DUP REM L9 L14 (2 DUPLICATES REMOVED)
                 ANSWERS '1-10' FROM FILE HCAPLUS
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=> FIL STNGUIDE

FILE 'STNGUIDE' ENTERED AT 09:19:52 ON 31 AUG 2004

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d l15 ibib abs
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L15 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2002:175812 HCAPLUS
DOCUMENT NUMBER: 137:94751
TITLE: A novel strategy for heterogenisation of homogeneous and colloidal chiral **catalysts** and their application in enantioselective reactions
AUTHOR(S): Kockritz, A.; Bischoff, S.; Morawsky, V.; **Prusse, U.**; **Vorlop, K.-D.**
CORPORATE SOURCE: Berlin-Adlershof e.V. (ACA), Institute for Applied Chemistry, Berlin, D-12489, Germany
SOURCE: Journal of Molecular Catalysis A: Chemical (2002), 180(1-2), 231-243
CODEN: JMCCF2; ISSN: 1381-1169
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For the heterogenization of chiral **catalysts**, a novel method has been developed and applied to different enantioselective reactions. The new heterogenization method is based on the three-dimensional entrapment of **catalysts** by electrostatic attraction between a polyelectrolyte and an oppositely charged **catalyst.** An easy preparation procedure, a simple separation and a good retention of the active **metal** in the **polymeric** material and a high long-term stability of the entrapped **catalyst** are the significant features of this new heterogenization method. Applying these entrapped **catalysts** in the hydroformylation of vinyl acetate, an enantiomeric excess (ee) of 39% could be obtained with a rhodium diphosphine complex. The activities and selectivities in the hydrogenation of di-Me itaconate have been found to be competitive with homogeneous **catalysts.** A change in the direction of enantioselectivity has been observed by using entrapped **Ru catalysts** in different solvents. For the entrapment of chirally stabilized **Pt**-colloids used in the enantioselective hydrogenation of Et pyruvate, different polyanions have been found to be suitable. A constant enantioselectivity and a good activity during 25 hydrogenation cycles were obtained employing alginate-entrapped **Pt** -colloids.
REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FILE 'STNGUIDE' ENTERED AT 09:20:11 ON 31 AUG 2004

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

=> d l15 ibib abs 2-
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

YOU HAVE REQUESTED DATA FROM 9 ANSWERS - CONTINUE? Y/(N):y

L15 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 1997:144493 HCAPLUS
DOCUMENT NUMBER: 126:255861
TITLE: Encapsulation of microscopic **catalysts** in **polymer** network gels
AUTHOR(S): Pruesse, Ulf; Hoerold, Sebastian; **Vorlop, Klaus Dieter**
CORPORATE SOURCE: Institut Technische Chemie, Technische Universitaet Braunschweig, Braunschweig, D-38106, Germany
SOURCE: Chemie-Ingenieur-Technik (1997), 69(1/2), 100-103
CODEN: CITEAH; ISSN: 0009-286X
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The **catalytic** reduction of nitrite (model reaction) at **Pd** /Al2O3 **catalysts** encapsulated in hydrogels of poly(vinyl alc.) was investigated. The **catalytic** activity of encapsulated **Pd**/Al2O3 (particle size 2 mm) was significantly lower than that of powdered **Pd**/Al2O3 (particle size 2-3 μm) due to diffusion limitation. The selectivity of encapsulated **Pd**/Al2O3 increased with increasing buffering capacity of the reaction solution An encapsulated colloidal **Pd catalyst** exhibited a higher activity and selectivity than encapsulated powdered **catalyst.** Under continuous operation conditions (15 d) no washout of the **Pd** colloid was observed

L15 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:246919 HCAPLUS
DOCUMENT NUMBER: 140:286531
TITLE: hydrogenated condensed palatinose preparation and use in food and drug manufacture
INVENTOR(S): **Haji, Begli Alireza**; Klingeberg, Michael; Kunz, Markwart; Vogel, Manfred
PATENT ASSIGNEE(S): Suedzucker Aktiengesellschaft Mannheim/Ochsenfurt, Germany
SOURCE: Ger. Offen., 44 pp., Addn. to Ger. 10,262,005.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10242062	A1	20040325	DE 2002-10242062	20020911
DE 10262005	A1	20040325	DE 2002-10262005	20020911
WO 2004031202	A2	20040415	WO 2003-EP9725	20030902

WO 2004031202 A3 20040506
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2002-10262005 A2 20020911
DE 2002-10242062 A2 20020911

AB The present invention concerns procedures for the production of condensed palatinose in hydrogenated form and use of the hydrogenated condensed palatinose in manufacture of food and drugs.

L15 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:750499 HCAPLUS
DOCUMENT NUMBER: 137:281017
TITLE: Manufacture and use of transition **metal** complex **catalysts** for heterogeneous **catalysis**
INVENTOR(S): Koeckritz, Angela; Bischoff, Stefan; Kant, Michael; Luecke, Bernhard; **Vorlop, Klaus-Dieter**; Pruesse, Ulf; Morawsky, Viola
PATENT ASSIGNEE(S): Institut fuer Angewandte Chemie Berlin-Adlershof e.V., Germany
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10112358	A1	20021002	DE 2001-10112358	20010308
DE 10112358	C2	20030410		

PRIORITY APPLN. INFO.: DE 2001-10112358 20010308
OTHER SOURCE(S): MARPAT 137:281017

AB A general method is provided for heterogenization of transition **metal catalysts** in liquid-phase reactions. The title **catalysts** with reduced active **metal** leaching, increased activity and improved selectivity comprise (a) a transition **metal** complex (general structure given), (b) a surfactant that can be attached to a ionic **polymer** carrier, and (c) soluble ionic **polymer** . The **catalysts** are manufactured by adding the solns. of preformed transition **metal** complex to a polyelectrolyte solution together with a surfactant to produce a mixed **polymer** salt which is converted into a defined dry form or applied on a substrate and dried. For example, adding 0.6 mmol [RuCl2(p-cymene)]2 to a solution of 0.12 mmol BINAP-4,4'-[P(O)(OH)2]2 [BINAP = 2,2'-bis(diphenylphosphino)-1,1'-binaphthyl] in 5 mL EtOH, stirring the mixture to convert the **Ru** precursor, adding 1.26 mmol decanephosphonic acid solution in 5 mL H2O and 1,5 mL 2N NaOH to the above mixture, then adding a solution of 4 mmol poly(diallyldimethylammonium chloride) in 3 mL H2O, stirring the whole for 1 h and depositing the resulting viscous liquid to a polypropylene plate and drying for 24 h in an inert atmospheric, gave beads of a title **catalyst**

. A solution of 280 mg di-Me itaconate in 10 mL EtOH was hydrogenated for 2 h at 60° and 20 bar H in the presence 310 mg of the above **catalyst** to give 100 conversion with enantiomeric excess 89%.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:834091 HCAPLUS
DOCUMENT NUMBER: 137:358619
TITLE: Caged **catalysts.** Strategies for making **catalysts** heterogeneous
AUTHOR(S): Wittlich, Peter; **Prusse, Ulf**; **Vorlop, Klaus-Dieter**
CORPORATE SOURCE: Institut fuer Technologie und Biosystemtechnik, Bundesforschungsanstalt fuer Landwirtschaft, Braunschweig, Germany
SOURCE: Process (Wuerzburg, Germany) (2002), 9(9), 38-40
CODEN: PMCTFH; ISSN: 0946-2856
PUBLISHER: Vogel Life Science Medien GmbH & Co. KG
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The heterogenization of (bio)**catalysts** using LentiKats and the JetCutter technol. is described. Polyvinyl alc. is used as a hydrogel matrix for the manufacture of the lens-shaped particles (so called LentiKats). This principle was used for homogeneous **metal** complex **catalysts**: chiral complex **catalyst** with different ionic functionalizations and **polymer** salts (chiral **metal** colloids with countercharged polyelectrolytes) were successfully heterogenized in LentiKats. The production of spherical particles for use in fixed and fluidized bed reactors can be carried out with the JetCutter. A **catalyst**-loaded fluid is expressed through a special nozzle. The jet is cut into cylindrical segments by a rotating cutter which then spontaneously form spherical particles on account of their surface tension. These particles are caught and hardened.

L15 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:666737 HCAPLUS
DOCUMENT NUMBER: 133:254142
TITLE: **Catalytic** method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds
INVENTOR(S): **Capan, Emine**; **Hahnlein, Marc Sascha** ; **Prusse, Ulf**; **Vorlop, Klaus-Dieter** ; **Haji Begli, Alireza**
PATENT ASSIGNEE(S): Sudzucker Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
W: AU, CA, IL, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19911504	A1	20001019	DE 1999-19911504	19990316
EP 1165580	A1	20020102	EP 2000-925117	20000316

EP 1165580	B1	20030702			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
AU 747812	B2	20020523	AU 2000-43953		20000316
AT 244256	E	20030715	AT 2000-925117		20000316
PT 1165580	T	20031128	PT 2000-925117		20000316
ES 2202115	T3	20040401	ES 2000-925117		20000316
US 2003139594	A1	20030724	US 2003-340913		20030110
US 2004002597	A1	20040101	US 2003-340901		20030110
PRIORITY APPLN. INFO.:			DE 1999-19911504	A	19990316
			WO 2000-EP2351	W	20000316
			US 2001-936891	A3	20011019

AB Industrial conversion of the title compds. in aqueous phase is carried out in the presence of **metal catalysts** consisting of **polymer**-stabilized nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the **polymer** and the nanoparticles is maintained. For example, activity of an Al2O3-supported, poly(vinylpyrrolidone)-stabilized **Pt** colloid **catalyst** (preparation given) in oxidation of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al2O3-supported **Pt catalyst** decreased to .apprx.35% after 10 runs.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:150064 HCAPLUS
DOCUMENT NUMBER: 128:181165
TITLE: New jet separation process for the manufacture of spherical particles from viscous **polymer** solutions
AUTHOR(S): Pruesse, Ulf; Fox, Barbara; Kirchhoff, Martina; Bruske, Frank; Breford, Juergen; **Vorlop, Klaus Dieter**
CORPORATE SOURCE: Institut Technologie, FAL, Braunschweig, D-38166, Germany
SOURCE: Chemie-Ingenieur-Technik (1998), 70(1-2), 103-107
CODEN: CITEAH; ISSN: 0009-286X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: German

AB A modified Freeze-Thaw-method for manufacturing spherical particles (diameter <1.5 mm) from high-viscous fluids like polyvinyl alc. solution (PVAL) was developed for immobilizing microorganisms or for encapsulating precious **metal catalysts.** Principle and operation of the encapsulation process, modeling of the cutting process, and determination of particle size distribution of the manufactured spherical particles are described. Spherical particles with diams. ≈ 0,3 mm and viscosities ≤200 mPas were manufactured from PVAL solns.

L15 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:665427 HCAPLUS
DOCUMENT NUMBER: 130:29719
TITLE: Preparation of microscopic **catalysts** and colloids for **catalytic** nitrate and nitrite reduction and their use in a hollow fiber dialyzer loop reactor
AUTHOR(S): **Hahnlein, M.**; **Prusse, U.**; Daum, J.; Morawsky, V.; Kroger, M.; Schroder, M.; Schnabel,

M.; **Vorlop, K.-D.**
CORPORATE SOURCE: Institute of Technology, Federal Agricultural Research Centre (FAL), Braunschweig, 38116, Germany
SOURCE: Studies in Surface Science and Catalysis (1998), 118(Preparation of Catalysts VII), 99-107
CODEN: SSCTDM; ISSN: 0167-2991
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Microscopic **catalysts** and **polymer** stabilized colloids were tested in **catalytic** nitrate and nitrite reduction The preparation conditions for the **bimetallic catalysts** tested in nitrate reduction strongly influence the **catalytic** properties. An influence of the stabilizing **polymers** used for the preparation of the colloidal sols on the **catalytic** properties was found, too. For continuous flow expts., both microscopic **catalysts** and colloids were tested in the hollow fiber dialyzer loop reactor.
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:771879 HCAPLUS
DOCUMENT NUMBER: 130:168754
TITLE: Development of some processes for the production of a porous and highly elastic carrier for the bioconversion of raw materials in aerobic processes
AUTHOR(S): Bettin, A.; Hansen, J.; Breford, J.; **Vorlop, K.-D.**
CORPORATE SOURCE: Institut Technologie, Bundesforschungsanstalt Landwirtschaft, Braunschweig, 38116, Germany
SOURCE: Schriftenreihe "Nachwachsende Rohstoffe" (1998), 10(Biokonversion nachwachsender Rohstoffe), 89-97
CODEN: SNROFF
PUBLISHER: Landwirtschaftsverlag
DOCUMENT TYPE: Journal
LANGUAGE: German
AB A porous and elastic carrier for the immobilization of microorganisms and enzymes used in aerobic **biocatalytic** processes, which allows high permeation of O2 throughout the suspension, was produced by the **Pt-catalyzed** addition reaction of polymethylhydrosiloxane and polydimethylsiloxane. This porous carrier allowed the 2- to 3-fold higher production of dihydroxyacetone from glycerol by Gluconobacter oxydans than did Aquacel as a carrier.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:188489 HCAPLUS
DOCUMENT NUMBER: 110:188489
TITLE: Reversibly precipitable water-soluble **polymer -biocatalyst** conjugates and their use
INVENTOR(S): **Vorlop, Klaus Dieter**; Steinke, Kerstin; Wullbrandt, Dieter; Schlingmann, Merten
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 15 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3700308	A1	19880721	DE 1987-3700308	19870108
EP 277473	A2	19880810	EP 1988-100006	19880104
EP 277473	A3	19910911		
EP 277473	B1	19950412		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 121103	E	19950415	AT 1988-100006	19880104
DK 8800052	A	19880709	DK 1988-52	19880107
JP 63175003	A2	19880719	JP 1988-791	19880107
CA 1336893	A1	19950905	CA 1988-556060	19880107
US 5310786	A	19940510	US 1993-106696	19930816
PRIORITY APPLN. INFO.:			DE 1987-3700308	19870108
			US 1988-141126	19880106
			US 1990-529723	19900529
			US 1991-683495	19910410

AB Water-soluble conjugates of **polymers** and **catalytically** active materials which may be reversibly precipitated from solution by increased temperature or salt concns. are prepared A **copolymer** containing epoxide groups was prepared by reaction of N-isopropylacrylamide 5.4 and glycidylmethacrylate 0.29 g in the presence of ammonium peroxodisulfite and Na thiosulfite for 40 min at 4°. The **copolymer**, containing 22 weight% epoxide groups, was incubated with 0.5 g trypsin for 24 h at 15°. The conjugated enzyme had an initial activity of .apprx.200 units/g **polymer** which decreased to .apprx.120 units/g after 6 pptns. for solution

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 27, 2004 (20040827/UP).

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